The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 810.—Vol. XXI.] LONDON, SATURDAY, MARCH 1, 1851. [Price 6d.

Stannaries of Cornwall.—In the Vice-Warden's Court.

PURSUANT to a DECREE of the VICE-WARDEN'S COURT, made in the consolidated causes of ROBINS the Younger and OTHERS *v.* BARRETT, the CREDITORS in respect of the ROCHE ROCK TIN MINE, in the parish of ROCHE, within the said Stannaries, are, on or before the 12th day of March next, to come in and PROVE their DEBTS before the Registrar of the said Court, at his office in Truro, or, in default thereof, they will be excluded the benefit of the said Decree.
Dated Registrar's Office, Truro, Feb. 26, 1851. /

COLLIERY PLANT.

TO BE SOLD, BY AUCTION, on Wednesday, the 5th day of March, 1851, at the POOL COLLIERY, near LLANELLY, Carmarthenshire,—
ONE very excellent PUMPING ENGINE, cylinder 36 inches diameter, and 7 feet stroke, with two boilers, about 20 tons. This engine is quite equal to new, and has very superior condensing apparatus.
ONE HIGH-PRESSURE WINDING ENGINE, cylinder 18 inches diameter, and 3 ft. 6 inches stroke, with two boilers and winding gear, complete.
ONE CONDENSING WINDING ENGINE, cylinder 24 inches diameter, 5 ft. 6 in. stroke, complete to the end of the connecting-rod. 2
Also, a considerable quantity of pumps, working barrels, plunger poles, capstans and ropes, waggons, trams, tramplates, wrought-iron rails, smiths' tools, lathe, weighing machine, coking ovens, and many other articles belonging to the said colliery.
Further particulars may be had on application to Mr. W. Thomas, Hall-street, Llanelly.

CUMBERLAND.—FREEHOLD ESTATES and ROYALTIES, with suitable FARM BUILDINGS, within 4 miles of WHITEHAVEN, lying in the district of the celebrated WEST CUMBERLAND IRON ORE FIELD. 3

TO BE SOLD, BY PUBLIC AUCTION (separately or together), at the Golden Lion Hotel, Market-place, WHITEHAVEN, on Thursday, the 6th day of March, 1851, at Three o'clock in the afternoon, all those very valuable FREEHOLD ESTATES, called

HOLEBECK AND RATTEN ROW,

Situate in the township of FRIZINGTON, in the county of CUMBERLAND, with good FARM HOUSE and suitable AGRICULTURAL BUILDINGS, containing, by admeasurement, 194 A. 3 R. 13 P., or thereabout, of good ARABLE, MEADOW, and PASTURE LAND, and divided into suitable enclosures, well watered, and the whole (except an outpasture, in the parish of Arlecdon, containing 29 A. 1 R. 0 P.) lying within a ring fence, at present in the occupation of Mr. Thomas Leathes, as tenant from year to year.
HOLEBECK and RATTEN ROW form two distinct Estates, in high cultivation, and contain respectively 38 A. 2 R. 17 P. and 61 A. 3 R. 36 P., and being contiguous, are now occupied as one farm. The market towns of Whitehaven and Egremont are within a short distance, and coal and lime being near at hand, are cheap and abundant. The River Eden skirts the property, and good fishing and shooting are to be had.
These Estates, which are situate in the centre of the Iron Ore District of West Cumberland, are within 4 miles from the town of Whitehaven, and it is presumed they abound in the rich description of ore peculiar to that district.
Extensive IRON MINES are now in FULL OPERATION, and working with great success in the surrounding neighbourhood; the facility for exportation and transit from Whitehaven to the Welsh, Scotch, and other manufactories, having opened out an immense trade, and a large demand for this important mineral. The furnaces of the Whitehaven Hematite Iron Company are within 2 miles from the property.
The tenant will show the premises.
Conditions will be produced at the time and place of sale; and further information may be had by applying to John Spencer, Esq., of Whitehaven; to Messrs. W. and J. Lamb, solicitors, Whitehaven, at whose offices a plan of the estates may be seen; or to Messrs. Gregory, Faulkner, Gregory, and Skirrow, solicitors, 1, Bedford-row, London.

CHEADLE COPPER AND BRASS COMPANY, OAKAMOOR MILLS, CHEADLE, STAFFORDSHIRE. 4

In consequence of the decease of partners in the CHEADLE COPPER AND BRASS COMPANY, their extensive WORKS at OAKAMOOR are now TO BE SOLD, OR LET ON LEASE, for a term of years.
The WORKS are in FULL OPERATION, and will be continued by the surviving partners until an acceptable offer may enable them to retire. The quality of metals manufactured at these works is well-known in the home and foreign trade, and has secured a most valuable connection.
Further information may be obtained on application to Messrs. Ingleby, Wragge, and Ingleby, solicitors, Birmingham; Latham Hannor, Esq., solicitor, Liverpool; or Rupert Ingleby, Esq., Cheadle, Staffordshire; and the works can only be inspected by an order from either of these parties.

COAL AND IRONSTONE, DERBYSHIRE.—TO BE LET, for a term of years, the valuable BEDS, or SEAMS, of COAL lying under the COTES PARK FARM, situate in the parish of ALFRETON, containing 145 acres, and locally known as the Deep Hard and Soft Coals. Both beds are of excellent quality, and are exclusively used in the Manufactures of Iron, Gas, Malting Cokes, and in the London markets, to which they are regularly sent from the collieries immediately adjoining.
The well-known valuable BEDS of IRONSTONE, under the same estate, would also BE LET, either together with the coal or separately. 5
The Erewash Extension Railway passing through the estate, gives a direct communication with all markets.
For terms, &c., apply to Messrs. Smithers and Mills, land agents, Chesterfield; or to Mr. Richard Coke, Langton, Alfreton.

A COLLIERY TO BE LET, in the neighbourhood of BRISTOL, favourably situated for markets. The PROPERTY consists of 100 acres of COAL, TWO PITS, ENGINES, &c.—For further particulars apply to Alfred Davidson, Warmley, near Bristol. 6

LAMB'S HOUSE QUARRY, situate within two miles of NORTH DELABOLE, CORNWALL, and less than one mile from the shipping place, produces SLATE equal in quality to any hitherto discovered in Wales or Cornwall. The party now holding this Quarry is desirous of DISPOSING of ONE-HALF—that is, the person who may purchase a moiety shall have an equal share with the present lessee.
To prevent misunderstanding, no one need apply who is unable to command £1000.—Apply to Mr. William Sloggatt, jun., Boscastle. 7

EXTENSIVE IRON-WORKS AND MINERAL LEASES FOR SALE, BY PRIVATE BARGAIN.—The BLAIR IRON-WORKS, belonging to the AYRSHIRE IRON COMPANY, situated in the parish of DALRY and county of AYR, consisting of TWO BLOWING ENGINES, FIVE BLAST-FURNACES, FOUNDRY, PIT ENGINES, and other requisite utensils for the furnaces and working the minerals, all in working order, besides nearly TWO HUNDRED WORKMEN'S HOUSES.
The extensive MINERAL FIELDS consist of BLACKBAND, IRONSTONE, COAL, LIMESTONE, and FIRE-CLAY, held under long leases, at moderate fixed rents and royalties, all in the immediate neighbourhood of the furnaces; and the works having a connection with the Ayrshire Railway, command great facilities for transit and shipping of the produce. There is a large STOCK of IRONSTONE on the ground, which may be had at a valuation, and considerable progress has been made in the ERECTION OF MALLEABLE IRON-WORKS, 8
in connection with the furnaces, which may also be had.—The above are well worthy the attention of capitalists and parties in search of mineral fields.
For further information apply to Mr. Brown, 35, St. Vincent-place, Glasgow.

STIRLING'S PATENTS FOR IMPROVEMENTS IN IRON.—1. TOUGHENED CAST-IRON, which is double the strength of ordinary cast-iron, and only 10s. to 12s. per ton extra.
2. ANTI-LAMINATING IRON, for RAILS and TIRES, &c., at an extra price of from 7s. 6d. to 10s. per ton. Also IMPROVEMENTS in the MAKING of WROUGHT-IRON—saving one process to the manufacturer.
The following Iron Manufacturers are duly LICENSED to MAKE the IRON:— 9

Messrs. BAIRDS'	Gartsherrie, Glasgow.
The CLYDE IRON COMPANY	ditto	ditto
The FIRTH IRON COMPANY	ditto	ditto
The HERSLEY COMPANY	Tipton, Staffordshire.
Messrs. LLOYDS, FOSTER, & CO.	Wednesbury.
Mr. JOHN WILSON	Dundyvan, Glasgow.

AGENTS.
Messrs. GARDEN and MACANDREW, 34, Dowgate-hill, London.
Messrs. W. & J. H. JOHNSON, 166, Buchanan-street, Glasgow, and 20, St. Andrew's-square, Edinburgh.
Further particulars may be obtained on application to the agents; or to Mr. JEE, civil engineer, No. 6, John-street, Adelphi, London.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.
THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 10
BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.
BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 20th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.
MEDITERRANEAN.—Malta—On the 20th and 29th of every month. Constantinople—On the 29th of the month. Alexandria—On the 20th of the month.
SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.
For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and Oriental-place, Southampton.

MR. JAMES CROFTS, of 4, KING-STREET, CHEAPSIDE, MINING BROKER, in renewing OFFERS of SERVICE to CAPITALISTS, feels much gratified at the extent of patronage and confidence he has received hitherto, and will continue so to treat the interests of his friends in town and country as to deserve a still more important share of their orders, whether for PURCHASING or SELLING MINING SHARES.—Mr. CROFTS acts exclusively for PRINCIPALS, and will cheerfully give advice on contemplated investments, so far as his knowledge or judgment permits, either personally or by letter.
Numerous sound concerns may be safely invested in, exclusive of *dividend mines*, but the latter with a certainty, *for some years*, of 12½ to 15 per cent. per annum interest.

MR. CROFTS HAS SPECIALLY FOR SALE—

Tincroft (36 shares)	West Tolgus (5 shares)
South Tamar (40 shares)	Wheal Tremar (10 shares)
East Tamar (20 shares)	Wheal Vincent (30 shares)
Warleggan Consols (20 shares)	Bedford United (20 shares)
Wheal Providence (35 shares)	Bodmin Consols (10 shares)
Grambler and St. Aubyn (1 share)	Great Wheal Sheba (5 shares)
North Wheal Robert (10 shares)	Bwich Consols (50 shares)
Appledore (50 shares)	Wheal Harriott (90 shares)
Wheal Russell (20 shares)	Worthing (50 shares)
Devon and Courtenay (32 shares)	East Wheal Reeth (20 shares)

MR. CROFTS issues a PRICE CURRENT of Mining Shares twice each week, which may be had on application.—Dated 4, King-street, Cheapside, Feb. 14, 1851.

MESSRS. FRANCIS & LIGHTOLLER, MINING AGENTS AND CIVIL ENGINEERS.
OFFICE,—No. 34, EXCHANGE ARCADE, MANCHESTER. 12
MESSRS. FRANCIS AND LIGHTOLLER, may be CONSULTED by MINING COMPANIES or OTHER PARTIES requiring INSPECTIONS and REPORTS on MINES of every description, or by CAPITALISTS and OTHERS desirous of INVESTING their CAPITAL in MINES or other MINERAL PROPERTIES.
Statistics and other general information connected with Mines and the Mineral Districts given or obtained with the utmost dispatch.
Capt. Absalom Francis having had upwards of 30 years' experience in the practical management of mines, and reported on most of the principal ones in the United Kingdom, applicants may rest assured they will receive full and satisfactory information on matters connected with mining.
Arbitrators and contractors for the erection of every description of mining machinery

MINING SPECULATIONS.—Mr. EVAN HOPKINS, C.E., F.G.S., &c., CONSULTING MINING ENGINEER—Office, 13, AUSTINFRIARS, LONDON.—Mr. HOPKINS may be consulted daily by Noblemen, Gentlemen, and Capitalists, who have INVESTED, or may wish to INVEST, their CAPITAL in MINES or MINERAL PROPERTY, both Home and Foreign. This office is the only one of the kind in the kingdom, having no dealings in shares—is independent, and unconnected with any party, besides possessing a thorough knowledge of Mining in all its branches, practically as well as theoretically, considered as a matter of business, from many years' experience. To avoid the abuses which are daily occurring, at the expense of distant capitalists and the uninitiated, it is particularly requested that no notice be taken of any verbal representations respecting the prospects of mines, without being duly authenticated by a qualified and disinterested person, whose character for judgment and integrity is founded on past transactions in mining. The object of this office is to protect legitimate mining, to see justice done to the capitalists and property, and to make the necessary examinations in time, not only to ensure that the prospects held out are well founded, but also that the concerns are in the hands of regular men of business—without which no mine, however good it may be, can be rendered remunerative to distant proprietors.
*** *All communications to be strictly confidential.* 13

MR. JAMES STRIDE, formerly of the firm of Bulmer & Stride, Parliamentary Agents, and late of Spring Gardens, MINING SHARE DEALER and AGENT, begs to state that he now TRANSACTS MINING BUSINESS at the *JAMAICA COFFEE-HOUSE, CORNHILL, CITY.*
Considering the improving value of Mining Property, and the consequent increasing demand for Shares, he deems the present time favourable for offering his advice in respect to that description of property.
MINING OFFICES,—No. 18, Adam-street, Adelphi, London. 14

MINING OFFICES, REDRUTH.—JOHN ROBERT PIKE takes this opportunity of announcing, that he has COMMENCED BUSINESS as a GENERAL SHAREBROKER, and that it will be his constant endeavour to give satisfaction to those who may favour him with their orders.
*** MINES INSPECTED AND REPORTS FURNISHED. 15

MINING AND RAILWAY OFFICES, No. 3, CASTLE-TERRACE, EXETER.—Mr. JOHN JURY, RAILWAY and MINING SHAREBROKER, OFFERS his SERVICES to CAPITALISTS in the PURCHASE or SALE of ANY DESCRIPTION OF PROPERTY; and will be happy to point out a selection of such stock as appear the most eligible, from data that can only be arrived at by those who give an undivided attention to the subject.—Every information afforded (either in person or by letter) to capitalists wishing to invest or exchange their securities, and sales or purchases effected upon the best terms, and at one-half the commission usually charged. 16

MINING SHARES.—Mr. HENRY VATCHER, EXETER, OFFERS his ADVICE and ASSISTANCE to PARTIES willing to INVEST in the ABOVE SECURITIES. Ten years' residence in Exeter, together with periodical visits to nearly all the Mines in Devon and Cornwall, enables him to become thoroughly acquainted with their respective merits.—Mr. VATCHER has at his command, at all times, practical and experienced agents, so that if any inspection is required, the same can be done without delay. 17

MR. BELL WILLIAMS, MINE BROKER and VIEWER, 16, *CASTLE-STREET, LIVERPOOL.* 18

MR. JOHN DAVIES, MINING SHAREBROKER, *No. 38, TOWER-BUILDINGS, TOWER-GARDEN, LIVERPOOL.* 19

WOODMAN'S WELL COPPER MINE, NEAR LYDFORD, DEVON.—In 2048 shares, of £1 each.
ON THE STRICT "COST-BOOK" PRINCIPLE. 20
Applications for shares to be made to Mr. Charles Daniel, 1, Royal Exchange-buildings, or to Mr. James Crofts, No. 4, King-street, Cheapside,—from whom the reports of Evan Hopkins, Esq., and Captain Lean, of Wheal Franco, may be had.
Prospectuses will be issued immediately.—Dated March 1, 1851.

NAFEAINE TIN AND COPPER MINE, in the parish of CONSTANTINE, CORNWALL.
In 1536 shares.—Deposit 10s. per share. 21
Prospectuses and Reports of this undertaking may be had from Mr. John Davies, 38, Tower-buildings; or at the offices of the Company, 5, White Hart-court, Lombard-street, London,—where applications for shares may be made. W. FENTON, Secretary.

BAROSSA RANGE MINING COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the proprietors of the BAROSSA RANGE MINING COMPANY will be HELD at No. 16, King's Armsyard, Moorgate-street, in the city of London, on Saturday, the 8th day of March next, at Two o'clock in the afternoon precisely, to consider the Reports of the Manager, Captain Rodda, and of Captain Phillips, the Inspector of the Mines; and to come to such resolutions for the further prosecution of the Mines as may be deemed advisable. 22
Dated Feb. 28, 1851. COODE, BROWNE, & CO.

REAL DEL MONTE MINING COMPANY.—Notice is hereby given, that on Wednesdays and Saturdays, after the 1st day of March next, the sum of ONE POUND will be PAYABLE upon every Red Debenture, and TWO POUNDS upon every outstanding £50 loan of 1827, being the second division of proceeds of sale of the Company's property. The red debentures, or the subscription receipts for the loans, must be left with me at the office, 6, Queen-street-place, Southwark-bridge, London, for at least one week previous to the payment of the dividend. The holders of debentures or loan notes who have not yet sent in their claims to the first dividend, are requested to do so forthwith. By order of the directors, 23
London, Feb. 14, 1851. JOHN PHILLIPS, Secretary.

TREMAR COPPER MINE, ST. CLEER, CORNWALL.—The South Caradon adventurers have subscribed for 424 shares in this undertaking.
Notice is hereby given, that the FIRST GENERAL MEETING of adventurers will be HELD at the Globe Inn, LISKEARD, on Wednesday, the 12th day of March next, at Three o'clock in the afternoon precisely; and applications for the few remaining shares must be made on or before the 10th of March, to Mr. James Crofts, 4, King-street, Cheapside, London, or to the purser. WILLIAM CHANNING, Purser.
7, South-street, Exeter, Feb. 27, 1851. 24

WHEAL HARRIET MINE, CAMBORNE, CORNWALL.—Notice is hereby given, that a MEETING of the adventurers in the above Mine will be HELD at the George and Vulture Tavern, George-yard, Cornhill, on Saturday, the 8th March, at Two o'clock precisely. 25
1, St. Michael's-alley, Cornhill, Feb. 26, 1851.

ASSAYING AND ANALYSIS.—ASSAYS and ANALYSES of MINERALS, METALS, SOILS, FURNACE, and all other MANUFACTURING PRODUCTS. INVENTORS and INTENDING PATENTEES assisted in PERFECTING any INVENTION involving an intimate knowledge of chemistry.
INSTRUCTION in all branches of ASSAYING, ANALYSIS, and METALLURGICAL and MANUFACTURING CHEMISTRY. 26
Communications to be addressed to Mr. Mitchell, 23, Hawley-road, Kentish Town.

MILL POOL MINE.—WANTED, as an additional Agent for this Mine, an active, intelligent, and practical man, who is thoroughly competent to SUPERINTEND a TIN MINE in all its departments, and who should be capable of keeping the accounts on the mine.—Applications, with testimonials, to be addressed to the "Committee of Mill Pool Mine," Post-office, Truro, on or before the 8th day of March next, that the same may be considered previous to the 10th March, on which day the Committee will meet at Crotch's Hotel, Hayle, to decide on the appointment.
February 27, 1851. 27

LIGUANEA AND GENERAL MINING COMPANY OF JAMAICA.—MINERS WANTED.—TWO MINERS, experienced in the WORKING of COPPER ORES, and ONE practically acquainted with LEAD MINES, are WANTED to proceed to JAMAICA by the mail of the 16th March next.
Testimonials of qualification, stating age and habits, to be sent to this office immediately.
Offices, 23, Abchurch-lane. JAMES SUTTON SWABY, Secretary. 28

MINING AGENT WANTED.—WANTED, by the LIGUANEA MINING COMPANY, a Gentleman qualified to act as the SUPERINTENDENT and CONFIDENTIAL MANAGER of the COPPER and SILVER-LEAD MINING PROPERTY of this COMPANY in JAMAICA—to proceed there immediately. None but a person possessing the highest qualifications and testimonials need apply.
Applications by letter, with copies of references, to be made to the undersigned. 29
Offices, 23, Abchurch-lane. JAMES SUTTON SWABY, Secretary.

WANTED IMMEDIATELY,—An experienced AGENT to take the MANAGEMENT of a MINE in CORNWALL: he must possess a good knowledge of Silver Ore, as well as Copper and Tin, and be able to furnish good testimonials as to his integrity and ability.—Address Mr. W., Sec., No. 3, Hatton-court, Threadneedle-street. 30

WANTED,—By an experienced Person, who has resided several years in Spain, a SITUATION as CLERK, or as CLERK and DIALLER, in any MINES ABROAD. The Advertiser is well acquainted with the Spanish language, and has a thorough knowledge of his profession and accounts: would have no objection to making himself generally useful. Most unexceptional references given.
Address (pre-paid) to "A. Z. M.," *Mining Journal* Office, 26, Fleet-street, London. 31

WANTED,—A HIGH-PRESSURE CONDENSING STEAM-ENGINE, of from 8 to 10-horse power, with BOILER, complete, and in perfect working order—new or second-hand.—Apply, stating full particulars, to Mr. Rowton, 8, Glen Mohr-terrace, Greenwich. 32

VALUABLE MINING PROPERTY.—A large holder in the EAST TRESCOLL TIN MINE, a private speculation, is disposed TO PART with about ONE-FOURTH of his INTEREST. There is now discovered upwards of 200 fms. of some of the very richest ore ground in the county. Returns will be immediate. The engine is rapidly progressing to completion, and will be erected in a few weeks. 33
Specimens may be seen, and every information obtained, by applying to Messrs. Emerson and Co., 15, Old Broad-street.

TO PLUMBERS, TIN-PLATE MANUFACTURERS, &c.—SHARES of a VALUABLE PATENT, connected with, and important to, Persons engaged in these and other analogous branches of business, to BE DISPOSED OF.
Address "S. D. M." at the office of the *Mining Journal*, 26, Fleet-street, London. 34

STIRLING'S PATENT ALLOYS.—RAILWAY CARRIAGE BEARINGS, MILL BRASSES, and all DESCRIPTIONS of CASTINGS, are MANUFACTURED by ALFRED BARRETT, Bishopsgate Foundry, Skinner-street, SOLE LICENSEE FOR LONDON.
BELLS of very superior quality (Stirling's Patent) are also SUPPLIED. 35

CHEMICAL AND ASSAY BALANCES.—L. OERTLING begs to direct the attention of Chemists, Assayers, and the Scientific Public in general to his BALANCES: they are constructed on the most approved principle, every attention being made to insure the most accurate workmanship and the best materials in their construction.—GRAIN and GRAMME WEIGHTS accurately ADJUSTED to the correct MINT STANDARDS.—18, Store-street, Bedford-square, London. 36

CHEMICAL ANALYSIS, &c.—ANALYSIS and ASSAYS, or INVESTIGATIONS of ANY KIND, are UNDERTAKEN at the COLLEGE OF CHEMISTRY, LIVERPOOL.
Professor—Dr. SHERIDAN MUSPRATT, F.R.S.E.
Hon. Assistant—Mr. JOSEPH DANSON, F.C.S. 37
A list of Fees for Analysis, and for Students Working in the Laboratory, may be obtained by writing to Dr. Muspratt, College of Chemistry, Liverpool.

CHEMICAL, MINERALOGICAL, AND AGRICULTURAL SCHOOL,—38, *KENNINGTON-LANE, LONDON.* 38
The SCIENTIFIC DEPARTMENT under the direction of J. C. NESBIT, F.C.S., F.G.S. one of the Principals.—INSTRUCTIONS are given in AGRICULTURAL CHEMISTRY, and the making of ARTIFICIAL MANURES.—Mineral Analysis taught in all its branches. Analyses performed as usual, on moderate terms.

MR. J. C. NESBIT, F.G.S., F.C.S., CONSULTING AND ANALYTICAL CHEMIST.—*LABORATORIES, 38, KENNINGTON-LANE.* 39
Mr. NESBIT gives PRIVATE INSTRUCTIONS in CHEMICAL ANALYSIS, and may be consulted on subjects connected with the Composition, Working, or Assaying of Minerals.—Analyses of Minerals, Slags, Soils, Manures, &c. &c., performed as usual, on moderate terms.

SHARES are TO BE SOLD in the following MINES:—

Treiyon Consols	West Treasury	Spearne Consols
Wh. Mary Ann	Balncon	East Wheal Rose 40
Cook's Kitchen	Wheal Margaret	Providence Mines
Penzance Consols	West Ding-Dong	South Tamar

Apply at the offices of Mr. Batten, No. 1, Crown-court, Old Broad-street.

REGISTRY FOR THE SALE AND PURCHASE OF MINING SHARES
DURRANT & CO., MINING SHAREBROKERS, 58, LOMBARD-STREET, LONDON.
Beg to draw the attention of Capitalists to their REGISTRY for the SALE and PURCHASE of SHARES.

Shares for Disposal.		
Devon Great Consols	Wheal Mary Ann	South Caradon
Carn Brea	Wellingtons	Great Wheal Sheba 41
West Caradon	West Buller	Treviskey
Trelawny	Tolgus	Bedford United

N.B.—Statistical information furnished on British and Foreign Mines.—No CHARGE made for the registration of shares unless business be transacted.

MINING OFFICES,—48, THREADNEEDLE-STREET, LONDON.—Messrs. THOS. FULLER & CO., beg respectfully to call the attention of CAPITALISTS to MINING, as being the most SAFE and PROFITABLE MEDIUM of INVESTMENT, and are in a position to BUY and SELL in all the DIVIDEND-PAYING MINES, and have on hand several other Mines, which will insure to capitalists the most safe investment, and will pay from 15 to 30 per cent. 42

MINING AGENCY.—The SUBSCRIBERS respectfully intimate, that their old and extensive CONNECTIONS afford them peculiar FACILITIES for EFFECTING SALES or PURCHASES of MINING SHARES with the utmost promptitude, and upon the best possible terms. They also beg it to be distinctly understood, that considering it to be incompatible with their duties as agents to speculate upon their own account, they have determined to adhere exclusively to a legitimate commission business. ESTABLISHED 1839. JAMES S. TRIPP & CO.
Lombard-street Chambers, No. 33, Clement's-lane, City. 43

MINES.—MOLYNEUX & CO., 6, FINSBURY-PLACE SOUTH, and 6, WEST-STREET, FINSBURY-CIRCUS, have SHARES FOR SALE in DIVIDEND-PAYING and OTHER MINES, which will ensure to capitalists the safest and most unexceptionable investment.—Office hours from Ten to Five o'clock. 44

MESSRS. MANUEL AND CO.'S MINING OFFICES REMOVED from No. 42, Fish-street-hill, to No. 26, AUSTINFRIARS, where all communications are requested to be addressed.—March 1, 1851. 45

MESSRS. BOXALL & CO., MINING SHARE DEALERS, 5, *CROSBY HALL CHAMBERS, BISHOPSGATE-STREET.* 46

MESSRS. TREVARTON AND CO., MINING SHARE DEALERS AND BROKERS,—5, *ST. JAMES'S-STREET, PALL-MALL.* 47

MR. JOHN CREFT, MINING SHAREDEALER, No. 1, ROYAL EXCHANGE BUILDINGS, LONDON, has on hand FOR SALE—West United Hills, North Basset, Wheal Franco, Peter Tavy and Mary Tavy, South Carn Brea, Bolanos, Swan Pool, Devon and Courtenay, and several other valuable mine shares. 48

MR. W. BIRDSEY, MINING AGENT, begs to acquaint his Friends and the Public, that he has OFFICES at No. 1, ST. MICHAEL'S-ALLEY, CORNHILL, and takes this opportunity to thank them for the favours he has hitherto received. From an extensive experience in MINING PROPERTY, in which he has been engaged upwards of 20 years, Mr. Birdsey flatters himself he will be enabled to give much general information—he having personally visited most of the mines in Cornwall.—Mr. BIRDSEY trusts, by strict attention to the interests of those who may honour him with their confidence, to merit a continuance of their orders. 49

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—5, New Burlington-street	2 P.M.
	Medical and Chirurgical—53, Berners-street	4 P.M.
MONDAY	Entomological—17, Old Bond-street	8 P.M.
	Chemical—142, Strand	8 P.M.
TUESDAY	Linnæan—Soho-square	8 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
	Pathological—33, George street, Hanover-square	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
	Zoological—11, Hanover-square	3 P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Botanical—20, Bedford-street, Covent-garden	8 P.M.
	Philological—London Library, 12, St. James's-square	8 P.M.
SATURDAY	Medical—33, George-street, Hanover-square	5 P.M.
	Royal Botanic—Inner Circle, Regent's-park	3½ P.M.

INSTITUTION OF CIVIL ENGINEERS.

FEBRUARY 25.—WILLIAM CUBITT, Esq. (president), in the chair.

The paper read was "A Description of the 'Royal Border Bridge,' erected over the River Tweed, on the line of the York, Newcastle, and Berwick Railway," by Mr. G. B. Bruce, M. Inst. C.E.

This viaduct, the total length of which was 2160 feet, and the extreme height 129 feet, consisted of 28 semi-circular arches, each 61 feet 6 inches span; and the whole constructed of stone, with the exception of the inner part of the arches, which was of brick laid in cement. It was divided into two parts by a central abutment, which enabled the land arches to be completed, and, along with a temporary timber bridge, to be brought into use for public traffic, before the completion of the river arches, which necessarily occupied a considerable period in execution, owing partly to very substantial coffer-dams having been requiste for the river piers, but principally to its having been thought advisable to pile the foundations of most of those piers, as the bed of the river was liable to be scoured away by the rapid stream. The piles, both of the coffer-dams and of the foundations, were mostly of American elm, as it was found that the heads of the Memel piles required to be frequently cut off and re-hooped, when driven by Nasmyth's steam pile-driver, which was almost entirely used, both on account of expedition and of economy; for it was proved, that whilst the hand ram only gave one blow in four minutes, the steam pile-driver gave 60 blows in one minute, and that the cost of the former was 2s per lineal foot, whereas that of the latter was very little more than 1s. per lineal foot. It was also remarked, that the force was more advantageously employed in the case of the steam pile-driver, as, on account of the ram being heavier and the fall less, the piles were not so frequently split.

The piers had an ashlar facing, and were filled in with well grouted rubble, having occasional through courses of ashlar, and an ashlar tie in the centre of their width from top to bottom. Great care was taken in the preparation of the mortar and the grout used in this work, and after a variety of experiments, the plan finally adopted was—in the case of setting lime for ashlar—to grind quicklime dry by itself, in a common mill, and then to mix it with coarse sharp sand, screened out of gravel taken from the bed of the river, in the proportion of three of sand to one of quicklime; this was then put under cover until required. Lime to be used for grout was also ground dry, and along with it was ground slag from an iron furnace, then gravel from the river was mixed with it without being screened, the proportions being quick-lime one, slag three-quarters, and gravel two and a quarter. The mortar when used had absorbed a sufficient quantity of moisture from the atmosphere and the sand, to prevent its being too hot for use, and yet, as it had not been previously mixed with water, and wrought into a paste, it retained its original setting power. This mortar required to be used very soft, and the stones to be well wetted, and as the sand was very coarse, thick joints were necessary, but in a few weeks it set as hard of Roman cement. All the lime used in this work was from the mountain limestone of the Scremerston and Lowich districts of Northumberland.

The centres, which were stated to have been of peculiar construction, were supported entirely from the piers, so as to prevent any accident happening, if the scaffolding was injured, either by the heavy floods of ice to which the River Tweed is subject in winter, or from the vibration of passing trains; as when the idea was entertained of having a temporary bridge, the intention was merely to add to the contractors' scaffolding, and to make it serve for both purposes. This intention was, however, abandoned, and an entirely separate timber bridge was erected, on the east side of the stone bridge, at a cost of 14,340*l.*

The total cost of the "Royal Border Bridge" was 120,000*l.*, and of the whole contract, one mile in length, in which it was comprised, 207,000*l.*, including an embankment, which had to be made entirely from side cutting, and which contained probably 760,000 cubic yards.

Some valuable and interesting experiments and observations were given on the velocity and regimen of the River Tweed, and the results compared with the theories generally laid down relative to running waters, by Buat and Eytelwein; and it appeared that although both approximated closely to actual experiment, Buat's formula gave the best result.

The meeting was adjourned until Tuesday, March 4th, when the monthly ballot for members will take place, and the following papers were announced to be read:—"Description of the Mode of working an Inclined Plane of 1 in 27½, on the Oldham Branch of the Lancashire and Yorkshire Railway," by Capt. Laws, R.N., Assoc. Inst. C.E.; and "Description of a Turn Table, 42 feet in diameter, used on the Bristol and Exeter Railway," by Mr. J. J. Macdonnell, Member of the Institution of Civil Engineers.

INVENTION FOR PRESERVATION OF LIFE FROM SHIPWRECK, FIRE, AND DISASTERS AT SEA.—We have lately inspected the apparatus of Mr. John Keyse, of Newington Butts: it is of very simple construction, consisting of two pieces of wood of great buoyancy, globular shape, concave, and of a convex oblong form, which is easily fixed to the waist. There is also a shield guard cap, sail, and hand paddle, with concave clogs, providing a considerable power of propulsion, to enable persons assisting others to reach the shore. As the apparatus is solid, and can be furnished at a reasonable expense, it is vastly superior to the numerous life preservers, &c., which can be easily punctured, and are liable to numerous accidents, thereby rendering them perfectly ineffectual. Among one of Mr. Keyse's apparatus is a floating rope, which retains its buoyancy in the water, and should be part of the furniture of every vessel. The apparatus can either be put on on board or in the sea, and if brought into general use will be, no doubt, a means of preventing many of those dreadful accidents and awful waste of human life which unfortunately we see almost daily recorded, through vessels, having a large crew and passengers on board, not being able to provide space to carry a sufficient quantity of boats; also, the frequency of boats being swamped or capsized, and their crews frequently perishing. One of Mr. Keyse's apparatus, weighing 6 lbs., is sufficient to support four people, under most adverse circumstances. The invention has been before the Trinity Board and the Committee of Lloyd's, and approved of by both. It is, we believe, Mr. Keyse's intention, some time in the ensuing month, practically to test his invention in the River Thames.

IMPROVEMENTS IN MANUFACTURING CYLINDERS.—Mr. W. Keates, Liverpool, merchant, has just patented some machinery for manufacturing rollers and cylinders used for calico printing and other purposes, which he describes and claims as—1. A compound machine for turning and boring cylinders and rollers of copper, brass, or any other suitable metal or combination of metals, for planing the inside, and for forming a longitudinal nib or projection in the interior of such cylinders and rollers at one operation.—2. A method of making hollow ingots, cylinders, and rollers, by casting the metal around a tube of equal or rather less diameter than the interior of the desired roller, which serves as a core, and forms the interior of such roller. The tube is to be filled with sand, or other suitable material, which can be removed when the casting has set. Also, a method of forming cylinders or rollers with a longitudinal nib or projection in the interior. A strip of metal is first bent round a mandril, so as to leave a space between its edges, the inner part of each of which is slightly champered off. A core, in which is a groove of equal width with the space between the edges of the partially-formed roller, is then introduced, and sufficient metal run into the mould thus formed to fill it. The exterior and interior of the roller are planed and finished in the usual manner.—*Mechanics' Magazine.*

The Shah of Persia has authorized an agent at Vienna to procure for him an Austrian engineer, for the direction of the mines in his dominion.

An American has succeeded in constructing a furnace by which glass is manufactured with no other fuel than anthracite coal.

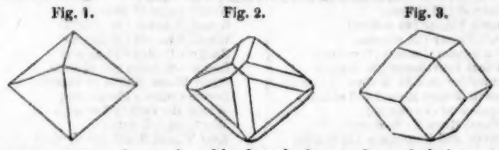
LIFE-BOAT.—The Shipwrecked Mariners' Society have had presented to them by Lieut. Walter a life-boat, constructed of Kamptulicon, capable of holding 100 persons. She was towed on Friday to Woolwich Dockyard, to be tested in the basin.

DISCOVERY OF A CURIOUS LEAD CAVE IN IOWA.—A discovery has been made in Dubuque, Iowa, of a cavern, 15 feet wide, from 12 to 15 feet high, and 1800 feet long, the side walls and roof of which is covered with lead ore in a nearly pure state. One mass is 48 feet long and about 8 feet square. There are two sheets of ore hanging down from the top, about 60 feet long and from 6 to 7 feet in thickness, of a purely snow-white colour. It is believed that the cave will yield $20,000 worth of the mineral.—*New York Sun.*

GEMS AND PRECIOUS STONES.

Prof. TENNANT has, since the recess, resumed his admirable course of lectures on mineralogy, at King's College. The two last lectures, of which the following is the substance, were particularly interesting. After describing generally the nature of gems, and expressing his full coincidence with many learned commentators upon Scripture, who believe that the "sardius or ruby, the topaz, the carbuncle, the emerald, the sapphire, the diamond," &c., mentioned in the 28th chapter of Exodus, as ornamenting the ephod of Aaron, differ somewhat from the minerals now known by those names, he proceeded to a more particular description of precious stones. Supposing a person to be travelling in a country in which he might expect to find precious stones, it would become important that he should know how to distinguish them from other minerals and from each other. The crystalline form was the first thing to be observed, and if broken in any part, the nature of the fracture. The colour, lustre, and touch of any substance should also be examined; and it should be applied to the tongue to try whether it had any taste or adhesion. Hardness was a very material quality, and sometimes it was necessary to see whether the electrometer would not be affected by it. The specific gravity was a very useful test; as, for instance, one gem would weigh so many times its own bulk of water, and another a more or less number of times. The crystalline form was very important, for the diamond and garnet were never found in prismatic crystals, or the sapphire, topaz, or emerald in the cube, octahedron, or rhombic dodecahedron. Many crystals were marked with *striæ* or fine lines upon their surface, and these, as they were transverse, longitudinal, or horizontal, distinguished different substances.

Fig. 1. Fig. 2. Fig. 3.



DIAMONDS were always found in detached crystals, and their variety of form was considerable. The octahedron (fig. 1) was the primary form, and the crystals would yield readily to mechanical division, parallel to all the planes of this figure. Diamonds were very frequently formed octahedral, with all the edges replaced by six-sided planes (fig. 2), and also in the form of a rhombic dodecahedron (fig. 3), the faces of which were frequently rounded. The diamond was also subject to that combination of crystals usually termed hemitrope, twin crystals, or macled. It was the hardest of all substances, but was rather brittle, as a slight blow would produce a fracture in the direction of its cleavage. The following table would show its relative hardness and that of other gems:—

DEGREES OF HARDNESS.			
1. Talc	23	6. Felspar	52
2. Gypsum	90	7. Quartz	26
3. Calc-spar	71	8. Topaz	6
4. Fluor-spar	53	9. Sapphire	1
5. Apatite	43	10. Diamond	1—266

The last column of figures showed how many of 266 substances were of the same degree of hardness with each mineral in the table. The specific gravity of diamond was 3·5, and its chemical composition was pure carbon, differing little from charcoal and plumbago. The extreme value of diamonds arose not only from their brilliancy, but from their extreme difficulty of working. The value of diamonds of equal merit was, generally speaking, as the squares of their respective weights. Thus, the value of three diamonds of 1, 2, and 3 carats weight respectively was as one, four, and nine. The average price of rough diamonds had been estimated at 2*l.* per carat, and, consequently, when wrought, the cost of the first carat, exclusive of workmanship, would be 8*l.*, or the value of a rough diamond of 2 carats. By this estimate a wrought diamond of 100 carats was worth 80,000*l.* There was some diamonds of enormous value. The most valuable gem in existence was the Pitt diamond, which was estimated at 135,000*l.* It weighed rather less than an ounce. It remained one of the crown jewels of France.

The lecturer illustrated this part of his subject by exhibiting a magnificent collection of diamonds, the property of a gentleman, Dr. J. E. Cliffe, the owner of a diamond mine in the Brazils. Mr. Tennant also introduced Dr. Cliffe to the students, and that gentleman gave a most interesting description of the mode of washing for diamonds on his property.

Dr. CLIFFE said—On the third of the great north and south range of mountains from the sea coast, going westerly, and commencing at the village of Itambé, in Minas Geraes, and thence northerly to Sincora, on the Paragussu River, province of Bahia, a region comprised between 20° 19′ to 13° of south latitude, diamonds are found in a greater or less abundance; but the principal working, so long known as the diamond district, is the high mountainous and sterile tract of country situated between the heads of the northern branches of the River Doce, the heads of the River Arassuahy, the heads of the River Jequetinhonha, and the heads of the great river of San Francisco. The prevailing rock is the Itacodumite, or mica schist, occasionally intersected with irregular quartz veins, running in all directions. Portions of those mountains, with the occasional mountion flats or plains, the valleys of the water-courses, as well as the beds of the streams, have always been considered the most productive in fine stones, both for quantity, size, and quality; and this has been more remarkably so where the rocks are pointedly appearing upwards, and projecting from 1 to 10 ft. in height, but are characterised, at the same time, as being deeply weather-worn, as though the teeth of Time had literally bitten pieces out of them, many having holes completely through them; others cavities, which, if laid horizontal, would hold many quarts of water. In those parts of the mountain where the mica schist is either at an angle to the planes of the horizon, or in flattened layers, and smooth in its articulations and surfaces, very few, if any, stones are found. In several instances, in this mountain range, stones have been found on the truncated cones of the larger groups of rocks or rocky mounds, rising out of the mountain plain, especially near the village of Datas; but it is in the beds of water-courses, both ancient and modern, and even those from small springs, as well as large rivers, with their adjoining flats, that have been washed for diamonds so very extensively. Many places have been highly rich, as Curralinho, Datas, Mendanho, Cavallo Morte, Caxóeiva do Inferno: these are not only remarkable places for having given many diamonds of superior quality and size, but are literally surrounded with those pointed rocks projecting from their rocky basis. In the Jequetinhonha, with its numerous heads, they have been found the most regularly rich, but only on one side of the river—viz.: the left hand going downwards to about 25 leagues, where they gradually become so small that many are required to make a grain weight: some are fragments, but many are perfect crystals. For a few leagues the river is barren, but at the junction of the Itambicuruçu (a river which rises on the mountains of Grad Mogul) diamonds again appear, and gradually disappear some few leagues further down, by becoming smaller and smaller. Gold dust is found in the river, and seems to have followed the same laws of motive-power, and is ceased to be washed for where the fineness is such that it literally floats away while endeavouring to separate it in the washing bowl. Three leagues north-west from Diamantina a clay vein exists for some considerable length, very soft, of the breadth of 19 ft., and was rich in diamonds for about 200 yards in length, and 60 ft. deep. At present it is washed below the level of a brook; the owners find as the depth increases the produce is materially lessened. There is a good deal of sameness in the colour and the leading features of the crystallisation of diamonds from each range or locality, and also goodness, but not of size. In the gravel (cascalho, diluvial), at the bottoms of the rocky rivers, or water-courses, especially the large ones, there is a mixture of all sorts of stones from above, but none found from the lower ranges. The rivers are usually turned by ingeniously building a dam with triangles of timber and fascines and stones, enveloped in grass, and channels formed laterally by walls of the same material, sufficient to carry off the water, leaving, with the aid of a pump and water-wheel, the bed of the river dry. The workings of the river have, firstly, a depth of sand, and recent matters from the washings above, varying from 6 to 20 ft. in depth, intermingled with rocks of all sizes; then a yellowish gravel (cascalho), composed of water, rounded quartz, jasper, and sand and ironstone, forming a uniform thickness, lining the bed of the river. Usually the upper surface is tolerably even, and regular in thickness for miles together in extent; thus the rocky bottom of the river might be said to be coated with it. This contains the diamonds and a little gold, and is carefully carried out as long as the dry weather lasts, which is from April to the middle of October, and then washed after the rains commence, which immediately destroy all vestige of the washings. Occasionally holes, water-worn (panellas), exist in the bed of the river, coated with (canga) conglomerate, and is often rich in diamonds and gold. Five years ago, one of these holes was found by accident in the river, which twice previously had been washed without finding it; nearly 10 lbs. of superior stones were found, and 28 lbs. of gold dust. The debris No. 1 was found in this pit. The debris No. 2 comes from a place called Pimentos; it had been once the bed of the river, but it was worn so deep and narrow that a large rock choked up the entrance, and for the river a new channel was formed; and in all the present bed of the river, which now runs nearly straight for at least a mile, was found, on washing it, to be without the diluvial gravel or cascalhoo. When washed, an accident gave rise to the tracing out the old bed about six years ago, which nearly throughout was exceedingly rich in stones, remarkable for their size, as well as their uniform goodness. No. 3 is the debris from the Bigonias River, a branch of the River Pardo, and a confluent of the San Francisco. The head of this was also very rich, and is situated on the most Alpine rocky place I have ever seen; in some places, for a mile or two, a snuff-boxful of earth could not be found. Here the debris contains the most perfect-formed octahedral crystal of rutile; in fact, from their specific gravity and analogous shape, and something of the metallic lustre of the diamond, much difficulty exists in seperating the small diamond from the refuse matter in the washings. Sincora, in the province of Bahia, which, a few years ago, gave such large quantities of stones, is no longer worked, as the expense of provisions, the pestiferous climate, the extraordinarily class of people of many nations who took possession of the most likely places, the great mortality, the inferiority of most of the stones, and the consequent depreciation which ensued from their abundance, in some cases to nearly one-eighth of their value, soon brought it into disrepute. The stones here were characterised as being found superficially, and by having their crystallisation extremely perfect, and highly polished on the planes. A considerable quantity of a black substance, specific gravity like the diamond, but lamellar, or rather composed of a series of lamellar plates, and vesicular, but generally in fragmentary pieces, were found. They were too imperfectly crystallised to be cut, although possessing fire sufficient to be beautiful in places, but serve to be pounded as dust for polishing other stones, was termed carbonado by the discoverers, from its charcoal-like appearance; without the slightest knowledge that accidentally the word carbonado was well adapted to express the nature of a substance which is said to resemble wood-charcoal in in its elementary decomposition. In washing diamonds, they are so generally spread out on such a large extent of country, that there is no difficulty of finding a place containing some; but the real difficulty consists in finding a work which is commercially worth working; and within a few months from the time of being found, they slowly but safely come down to the coast, and then find their way to London, a very few only being consigned to Havre. They are mostly sent to Holland to be cut, then set in England, and again proceed over the world in their new form and brilliant appearance. In ordinary seasons, eight persons finding one half-ounce of three grain stones are considered to have been fairly remunerated. It is said that in 10,000 diamonds only one is found exceeding 20 carats in weight. The washing or cleaning of the gravel is always very imperfectly done, as every year some of it is again re-washed, and frequently as many as six or seven different times; but the process is imperfect, as the specific gravity of the diamond is so little above the rolled quartz pebbles, which constitute the mass of the gravel. The present mode of washing is by forming an incline plane, where a small stream of water can be brought when required; the length is about 5 by 2 ft. in width. A wheelbarrowful of the gravel is then thrown on the head of the place, which is defended by two sides of board, and also another piece at the head; a series of these are formed parallel. At the termination is an oblong catch pit; in this pit people stand and throw water from a bowl, with some force, to the foot of the heap of gravel, as if trying to force it backwards. As the water runs off, it carries away with it a portion of sand and earthy matters. The larger stones are picked out by hand, and the process repeated till about half a cubic foot of the washed matter remains. It is then washed by hand in a bowl in the catch pit, similar to gold washing, and the diamonds, as they appear, are picked out. The contents of the catch pit are re-washed as often as there appears a chance of its paying the cost. The gravel, broken rocks, sand, and all other matters, are carried in bowls on workmen's heads, or if the workpeople are sufficiently numerous, are passed in files from hand to hand; occasionally a double file—one being to pass the empty bowls. Hitherto no machinery has been found to answer, either from being improperly adapted, or imperfectly used.

Having described the diamond as an ornamental stone, Professor Tennant next explained the importance of diamond dust (or the chippings from diamonds resulting from their being worked) in a manufacturing point of view. Diamond dust was used for cutting materials which no metallic substance would act upon. The glaziers' diamond was the most common application of these fragments, but it was also much used by the lapidary in cutting hard stones, such as sapphire and topaz, which were sufficiently hard to scratch steel. The diamond dust was placed on the edge of a thin iron plate, in which the particles became imbedded, and acted as so many teeth, and with the help of a limpid oil, called oil of brick, which would not coagulate, the hardest substances were divided. The price generally paid in the trade was 6d. per square inch for cutting, and 2d. for polishing.

The SAPPHIRE was at the head of a class of precious stones, called oriental gems or *corundum*. This was a most important stone, and when blue was called sapphire; red, ruby; yellow, topaz; green, emerald; violet, amethyst. There were other stones to which the terms ruby, emerald, topaz, &c., more properly belonged. Those of which he now spoke were only differently coloured varieties of corundum. The sapphire ranked next to the diamond in hardness, and its crystalline form was commonly a six-sided prism, terminating at both ends in six-sided pyramids. It was striated in a transverse direction, similarly to quartz, and the pyramidal terminations were often elongated. In the British Museum there was a most perfect collection of all the varieties of sapphire. When broken it differed materially from quartz, the fracture being at right angles to the axis of the prism, with a smooth surface, while that of quartz was conchoidal. Its specific gravity was 3·9; it consisted of nearly pure alumina, there being from 98 to 99 per cent. found in it. Some analysers had given a larger proportion of silica than this would allow, but it arose from the fact that the sapphire had been broken in an agate mortar, a softer material, so that the powder had been sapphire, plus the silica, from the mortar. Some of the commoner varieties of corundum, such as emery, were of great value in the arts, and were used to a considerable extent. Those who had visited the tomb of the Three Kings, at Cologne, would remember there an extraordinary collection of gems, but the only genuine ones appeared to him to be the sapphires. Some sapphires, and those the most valuable, had a peculiar star-like radiance, and this peculiarity was perceptible in some at Cologne.

The SPINELLE RUBY was found crystallised in octahedrons, and also united together at a particular angle, and it occurred most plentifully in volcanic rocks, from whence it was washed down the river courses. This gem was remarkable, inasmuch as two French chemists had succeeded in so mixing its chemical ingredients as to produce the stones; and of these artificial gems he had seen specimens at the meeting of the British Association at Birmingham.

The TOPAZ varied almost as much in colour as the sapphire; it was a stone of less value, but one of great interest. It was picked up in the beds of rivers, where it had the appearance of a semi-transparent water-worn pebble, but it had a most beautifully uniform cleavage, the sides being far brighter, smoother, and truer than any lapidary could imitate. He exhibited a specimen lent him by Mr. Massey, a jeweller, residing just opposite the India-House, which exhibited all the peculiarities of the topaz. It differed very much from quartz, not only in its fracture, but also in its crystallised form, which was a rhombic prism, while that of quartz was a six-sided prism. It was also striated in a longitudinal direction, while quartz was transverse. The stones from the Brazils were generally yellow, but could be turned into a beautiful pink by the gradual application of heat. Many stones sold for topaz were nothing but coloured glass, or at the best but cairngorm.

At the tomb of the Three Kings of Cologne, there was a stone said to be topaz, but having a flaw; the fracture proved clearly that it was only yellow quartz or cairngorm. In their own museum (King's College) there was a magnificent crystal of quartz, upon which were studded a large number of topazes, one of which was a pink colour, and the others yellow. The pink one probably resulted from exposure to the sun.

EMERALD, BERYL, and AQUAMARINE, were the next in hardness. The emerald was a gem of a most beautiful green colour, and whenever it was found free from flaws, of great value. Its crystalline form was a six-sided prism. Its fracture was at right angles to its axis, and it was exceedingly brittle, so that a ring falling a few inches upon a table might receive a serious injury. Beryl and aquamarine were varieties of emerald. They were

all striated in a direction opposite to that of quartz. Recently, he knew a case in which a foreigner had obtained a loan of 300*l.* on a large crystal of beryl, from a jeweller, which turned out to be nothing but coloured quartz. Jewellers generally, he regretted to say, were very ignorant of mineralogy; in this case, the different lines of striation showed at once the cheat. Beryl was found in crystals a foot in length sometimes, but its colour, when large, was somewhat inferior. There was a crystal from the United States in the British Museum as large as a man's leg, and weighing 50 lbs.

HYACINTH, or ZIRCON, was found in crystals (a four-sided prism terminated in a four-sided pyramid) in volcanic rocks in the central part of France.

TURQUOISE was a mineral disseminated in sandstone rocks, and was found by the Arabs in the debris. It had a beautiful colour, which faded on exposure to the light.

CHRYSOLITE, or PERIDOT, was a substance found in volcanic rocks, and was more highly esteemed in France than in this country.

TOURMALINE was, when transparent, very difficult to obtain. It was much sought after for the purpose of aiding in experiments on the polarisation of light. Inferior kinds were found in the granite rocks of Cornwall and Aberdeen; these were locally known by the name of schorl.

LAPIS LAZULI was much used for ornamental purposes, and for the extraction of a colour from it—viz., the celebrated beautiful "ultra marine." The two finest crystals of this stone was one in the museum of Dresden, and the other in that of the late Marquis of Northampton.

The lecturer concluded with some observations upon the Crown jewels. He feared that some of the diamonds in the older crowns were nothing but paste or glass. One large stone, said to be a spinelle ruby, was nothing, he believed, but a garnet; and the "large sea diamond," pointed out ostentatiously by the guide, in the gold salt cellar, as being worth 100*l.*, was probably not worth 100s. The jewels in her Majesty's crown were all genuine, as any one might see by their brilliance in the sunshine, who visited the jewel room at 3 or 4 o'clock on a summer's afternoon. The contrast then between this crown and the others was most remarkable.

Original Correspondence.

THE TICKETINGS IN CORNWALL AND SWANSEA.

SIR,—In your Journal of the 15th inst. the reply to your correspondent ("W. M.," Holywell), touching the ticketing of copper ores in Cornwall and Swansea, is given erroneously. The room is not "free to all intended purchasers," unless they had given a month's previous notice of such intention, and at the expiration thereof were declared admissible; this period being required by the sellers to ascertain the responsibility of the party desiring to offer. No parcel of copper ore can be withdrawn on the ticketing day, nor even on any previous day, if it had been sampled by the copper companies' samplers. It can only be withdrawn from the *sampling* (which takes place three weeks before the ticketing). There have been a few instances of parcels withdrawn between the sampling and ticketing, on proof being afforded that after the sampling it was discovered that the ore contained other metal than copper. HENRY BATH & SON.

Swansea, Feb. 24.

SWANSEA TICKETING.

SIR,—I have been informed, by a friend, that at a ticketing, which recently took place at Swansea, and at which two or three parcels of Chili copper regulus, which contained a portion of silver, was offered for sale, the Messrs. Nevill, of Llanelly, and the Messrs. Vivians, of Swansea, who have respectively processes adapted for the extraction of silver from such ores, offered 6*l.* per ton for the silver, in addition to the value of copper which those parcels contained; and although Messrs. Nevill and Vivian offered to give Messrs. Williams, Foster, and Co., their proportion of the copper out of the other ores sold at the same time, the Messrs. Williams would not consent to the proposition. The miner, therefore, had to sacrifice 6*l.* per ton on his ores—viz.: the value of silver they contained. Such is the manner in which the ticketings are conducted at Swansea. How long does the miner intend to submit to this sacrifice?

Feb. 26. A MINER.

COMPENDIUM OF BRITISH MINING.

SIR,—In the third communication of Mr. Watson it is stated that—

> The lode, divided in compartments, is let by public competition for two months, to two or four miners, who may work it as they choose. The ores are sold every week by public auction, and the miner receives immediately the tribute, or per centage, for which he agreed to work, which varies from 6d. to 13s. in 1*l.*, according to the richness or poverty of the ores produced—the adventurers thus avoiding the necessity of overlooking the details of so many operations. Should the pitch turn out bad, the miner has a right at any time to abandon his bargain, by paying a fine of 20s. The pitches are in most cases taken by two miners, often father and son, who, finding the lode turn out poorer and poorer, are at last compelled to pay their fine, and quit the ungrateful spot.

Now, in real practice, we shall discover a considerable variation from the above. On tribute survey day (which is at as many mines monthly as bi-monthly) the various pitches are called up, and offered for competition, for one month or two, and set to 8, 6, 4, or 2 men, according to the agent's expectations, after a very minute inspection of every pitch, and for each of which he or they, upon the spot, fix the tribute price they think fair, which is called the "captain's price," and is pencelled in the margin of the setting-book before the survey. Of course, the more orey the pitch the more men necessary to properly work it; eight men would work for six hours each, two in a core, from early on Monday morning till Saturday evening—six men eight hours each, three cores in the 24 hours, relieving in place, and so on. It is after such pitches have been wrought and wrought from month to month by the larger pare of men that they become less productive, and at last will not afford a living for more than two men, and that at a high tribute: 13s. 4d. in 1*l.* is called "an old soldier," though a few are occasionally refused at that when labour is plenty, and I have seen 15s. given, which leaves little or nothing for the adventurer, after paying dues and parochial rates.

At regularly-conducted mines the conditions are read before setting commences, and I furnish a short extract from one in the Illogan district regarding tributers:—

> Every taker shall produce his full number of men, and such as the agents approve of or the pitch shall be immediately re-set, and the taker not allowed to offer. Every man to relieve at the proper time, or be spaled 2s. 6d. for the first offence, and 5s. for every subsequent core, or be excluded from working in the mine.
>
> All tributers neglecting to leave proper passes, as directed by the agents, shall be fined 1*l.* per man for every such neglect; and if known to have an interest in more than one pitch, they shall forfeit all their ores and moneys due, and be excluded from the mine; and if they neglect to work their pitch, or leave it before the expiration of their take, they shall forfeit all their ore, and be fine 1*l.* per man.
>
> Every tributer to leave all the ground clear at the expiration of his take, or be fined 10s. 6d. per man, and to pay 6d. per kibble for all ores or deads uncleared three days after.
>
> Any man known to commit a fraud by taking the adventurers' ore, or that of any other person, shall be excluded at once, and all moneys due to him, together with his ores broken, forfeited, and himself subjected to a prosecution for such offence.
>
> Every tributer shall assist to weigh and sample when required, or be spaled 5s. a man, and attend capstan, or be fined 2s. 6d. each; if drunk, 5s.; and if he insult an agent, 10s.

These conditions are mild to many others that have come under my notice, yet they will be found such as to convince every one, tributer or not, that they are not allowed to "work as they choose, or quit the ungrateful spot at any time by paying a fine of 20s.

After the conditions are read aloud, the captain proceeds to call over the limits of a pitch, thus—

> J. Penn's pitch is the 100 fathom level, on English's lode, and from Watson's winze 10 fms. east and 10 fms. west, as high as they may rise, or the level above, by six men, for one or two months (as the case may be).

Penn's pare will ask enough, probably 12s. in 1*l.*, while the stone is tossed up by the agent; and if no other pare says less, before it reaches the ground, Penn has the power of taking or refusing the "captain's price," which is probably 1s. 3d. in 1*l.* The captain says—"Do you like it in fifteen pence?" Penn replies—"I don't like it very much; but put it down, please."

Should any other pare have "cut it down," by saying 10s., Penn would say 9s., and so on—a sort of Dutch auction—till one party is silent; the other then, being the lowest, would have the pitch.

So much for the setting and working part: now for the sale of ores. We have already seen how the ores broken by the tributers (whether in one month or two) are dressed, weighed in, divided, and sampled the month after, and for sale at the ticketing, from 15 to 20 days, until so disposed of, and weighed off to the purchasers, the tributers' account could not be ascertained, nor what is due to him—as such they are advanced subsist, and for the balance have to wait, generally until 28 days after the ticketing, when the purser, receiving from the smelting company an acceptance, at 30 days, for the ore so sold, settles with the tributers. It should be taken into account, that although there are 48 ticketings in the 52 weeks (viz., 26 at Redruth, 4 at Pool, 4 at Camborne, and 14 at Truro), still, with the exception of Par and Fowey Consols, the mines sell only once a month—many of them once in two: they *never* did sell by "public auction," or pay the tributer "immediately." The ticketing is by written tenders from the nine smelting companies, who are present either by one of the partners or the respective cashiers. The chair is taken at twelve o'clock by the purser, or manager, who has the largest quantity that day to dispose of, who receives the tickets and reads them out before all the company, from No. 1 downwards—the secretary, as vice-chair, repeating the prices again, and declaring who are the respective purchasers. The smelters' agents then prepare their offers for the ores in the second mine, which go through the same ceremony, and so for every mine to the end of the sale; after which the company enjoy an excellent dinner at the miners' expense, which is paid by about 1¾d. per ton, charged on the ore, more or less.

The last portion of Mr. Watson's third article relates to the "diamond-cut-diamond system of the Cornish mines;" an instance has recently come before the public in the trial at Redruth County Court, at its last sitting, in the case of "Trestrail and Hicks, tributers, *v.* Thomas Garland and the Adventurers in the Carn Brea Mines" [noticed in another column of this day's Journal], to which I beg to refer Mr. Watson and your readers. ARGUS.

Truro, Feb. 17.

P.S.—On inquiry I find "no part of Great St. George sett is in granite that is rich in tin," for they have not risen any for a considerable time *in any part of the extensive sett.*

SIR,—With reference to Mr. Watson's communications under the above head, Nos. 4 and 5, they require scarcely any comment from me—the system of sampling and ticketing, as conducted in this county, having already been fully explained. The assaying and standards rise and fall. I beg to leave in the "Cornish assayers' (hands) generally" to speak as to the "accuracy" thereof, and "the process of smelting copper ore" to the nine smelting companies' agents, which brings me at once to the concluding paragraph of No. 5, respecting tin after it has been smelted. Mr. Watson states—

> The blocks are weighed, numbered, and sent to the nearest coinage town to be coined. In the Coinage-hall a piece of about 3 or 4 ozs. is cut off from one of the lowest corners, in order to prove the fineness of the metal. The face of the block is then stamped with the Duchy seal, which constitutes the coinage, and is a permit for the owner to sell.

It is sufficient to state, that such ceremonies were done away with years ago. Our ancient and venerable hall in Coinage-hall-street has long been "consigned to the tomb of all the Capulets," and a grand banking-house and other offices erected on the spot;—where formerly was the deposit for tin, now issues forth gold, silver, copper, and notes.—ARGUS: *Truro, Feb.* 20.

MR. WATSON'S COMPENDIUM OF BRITISH MINING.

SIR,—It is with pleasure I read the remarks on our ancient sources of wealth, which have stood the noble test, I might say, of countless ages, and Nature has still there a store to aid the child that is unborn, when the bright rays of science, that are now basking in the horizon, will arrive at the meridian, and shine forth on them in full splendour—what can then prevent Nature from yielding to them her boundless store of wealth. The rising generation will be benefitted, and the public must feel obliged to Mr. Watson for the time and trouble he has taken in collecting the interesting remarks which he has published in your Journal. All must expect that many slight errors would be unavoidable, and particularly so when taken up by a person not practically connected, further, perhaps, than an extensive shareholder and a minute observer. And I ask if he has not brought out many interesting facts which hundreds of our practical miners were unacquainted with, and all his errors are open for the more shrewd to reply to; and thousands of interesting discussions are originated on the subject, between parties that never otherwise would have come before the public: it is on these grounds, therefore, that I contend that the "Compendium" diffuses general knowledge, so much needed in mining speculations. Your readers are also indebted to "Argus" and others for their able remarks. It is only to be regretted that some took it up with an interested spirit, grounded on opposition: they omitted the most interesting parts, and brought forth the trifling errors, of no moment.

I have no recollection of "Argus," but hope he will some day favour me with his address. I agree generally as to his remarks, and particularly on lodes suddenly becoming small: it is this that causes lodes in strong mineralised strata, deficient of cross-courses and other intersections, to produce ores—it acts as cross-courses, but not to that extent: it is a sudden check on the magnetic current, and if the combination is favourable, ore is found accumulated in the large parts of lodes near these small contracted spots. These sudden contractions are produced by uncongenial strata that cross the lode, which amounts to an intersection; but it is often less favourable than cross lodes. It is to these things lodes are indebted for their great riches, and not to upheaves produced from melting masses.

I am obliged to "Argus" for his remarks on the granite rock, but was not aware the distance he confined himself to, and thought a mile or two might be what Mr. Watson terms a short distance. This granite discussion may be interesting. I will venture to intrude a little further on your columns, by observing that I think they are now raising most of the ore at St. George, about what was formerly called Devonshire, or Good Fortune; and I think that is within a quarter of a mile of the granite at Clegga, what "Argus" called a patch: then, I ask, on what grounds he can call it a patch, when it is evidently broken off by the sea, and no bound can be defined northward? why not call it the vague end of a large mass of granite, stretching north and west, and near Wheal Charlotte? These things rest on mere theory—we are certain that granite is within that distance of the mine. I was not aware of it being abutted against the clay-slate as a dyke. It is the opinion of most geologists that the clay-slate overlaps the granite; in that case, it must run under the beforementioned mines; but I am not satisfied as to its being at all times the case. It might be interesting to draw public attention to it, and I would ask Capt. T. Pill, of St. George Mine (an old school-fellow of mine), to favour us with the distance this ore is from granite, and if it stands nearly perpendicular as a dyke, or if at the junction it dips northward under the sea, or south-east under the copper mines—if so, at what angle? "Argus" would greatly oblige if he would remark on any other place which has come under his notice, where granite has been found going down nearly perpendicular, or overlapping the slate. Some of his friends might give him information of places which have fallen under their notice. Care should be taken not to construe detached granite from mountains for its regular declination.

We have strong presumptive evidence that granite abounds near our north cliffs, from the fragments now visible at Clegga-head, and the very great number of productive tin and copper mines found on its margin. We also find an unproductive channel running about south-west, between this and the Redruth Mines. See the number of mines that have been worked in the middle channel, and produced but a trifling amount of copper, and little or no tin—Wheal George the Fourth, Wheal Liberty, Wheal Burrow, and 20 other places I could mention, are all in this dead channel. N. ENNOR.

Wiveliscombe, Feb. 24.

THE BEST MODE OF MINING.

SIR,—In reply to Mr. T. Bishop, I am inclined to say but little. From his superior talent and high standing, I expected him to have made his *debut* by giving the public some useful information on gossans, direction of lodes, and angles of cross lodes, and sinking deeper to find ores. I have been long looking for him to enter the field, hoping something useful might be gathered from his remarks to aid my scanty store; but I find him, like my friend, Mr. Rowlandson, not inclined to "let the cat out of the bag." Since he is so reserved, I hope he will quietly take the advantage of his superior judgment, and do what others have not done for centuries before—bring one of these Buckfastleigh mines into the dividend-paying list; when it will be most pleasing to congratulate him on his success.—N. ENNOR: *Wiveliscombe, Feb.* 24.

PROGRESS OF SCIENCE—MINING A CERTAINTY.

SIR,—Every friend of mining must rejoice to find that at length the great desideratum of reducing it to an absolute certainty has been accomplished, and that now no longer is it a speculation, more than the pursuit of agriculture, or any other business. Men can now be found who have no more difficulty to clearly demonstrate the quality of a lode, from surface to any required depth, than a corn dealer to estimate the stack of corn, or the grocer the hogshead of sugar from the sample. Drop upon a lode of copper or lead, or tin: call in the practical man. If he pronounce it ripe for the harvest, he will likewise tell you the yield per fathom, for any given number of fathoms in length and depth, with as much accuracy as the farmer can estimate his wheat crops per acre. As there are some soils and situations that produce more abundant crops than others, so lodes, when ripe, are not all equally productive. As depth, richness, and particular composition of soil, add to the yield of wheat, so is the lode dependent upon the description of stratum, aspect of the surface, angle and bearing of the cross-courses, for its productiveness; but as these are easily ascertained, so can the quantity of ore in any given piece of ground be at once determined. This is what has long been wanted; and now that Mr. Ennor has announced the fact, intense anxiety will be felt upon the subject until we are favoured with his forthcoming profound lucubrations. His unbounded liberality in offering to put us in possession of these great truths through the medium of your Journal, must be hailed with delight; and, as I have some knowledge of the age of this gentleman, I sincerely trust he will at once commence the work which he announced through your paper of the 15th inst.

Mr. Ennor remarks—"These are things for Mr. Rowlandson to study, to enable him to meet me, and tell from the appearance of the lodes when is the due time for harvesting their produce" with the same accuracy as the agriculturist can tell when to harvest the produce of the field, and the woodman when the tree is arrived at perfection. Any one skilled in geology (and none but those so skilled should report upon mines) "will tell us when a lode has arrived at that perfection. If going backward, and is a rotten tree, it will be useless to work it; and if a mere sapling, what a pity to destroy it."

Mr. Ennor's "compendium" in one hand, Mr. Bartlett's "Cost-book System" in the other, and a quadrant in the pocket, we shall stalk forth "like giants refreshed with new wine;" the whole mystery made plain, and the system taught with the usual school exercises. Here is sublimity of thought—here perfection of science in geology and mining matters—which must throw into the shade every other production of the press on these subjects. Stay your hand, ye publishers! Wait the result of this announcement ere ye submit to the more than Argus eyes of Mr. Ennor your fallacious theories, and incur the satirical effusion of this *savan!*—MIRAM: *London, Feb.* 25.

THE ADVANTAGES OF PAID-UP MINING CAPITAL.

SIR,—I have perused your various remarks on the subject of "projecting mines with a paid-up capital;" and although I would on all occasions express with great diffidence my opinions, when they are in direct opposition to those of the ably-conducted *Mining Journal*, I cannot but feel on this occasion that you are on the wrong side of the question, and that past experience has most substantially proved it so, much to my loss.

What causes so much ruin to all classes of her Majesty's subjects in railway matters? The fact, that in subscribing for shares it was only necessary to pay a trifling fee, so that a man could subscribe for a large number of shares in ten different railways who had only 100*l.* to spare. The reference that was required was a guarantee for the party's respectability; but not that he was capable of withdrawing from his other pursuits 10,000*l.* to invest in railways. I heard a gentleman a few days since say, that one morning he looked over his railway affairs, and found that he was liable for about 40,000*l.*, while he was not in a position to pay 5000*l.*; this opened his eyes, and, fortunately, he at once went to a broker, and commissioned him to sell every share he had. But where you found one man act in this way, fifty held, in the hope of increased premium, when a general panic was the result of every one wanting to sell and no one to buy; and but for the interposition of Parliament, the numbers ruined would have been considerably augmented, although those who fell were not a few. As it was with railways on a gigantic scale, so it has been repeatedly with mines on a smaller scale; but in the latter individuals only have felt the effect, and not the public generally. When the requisite capital is at once paid up, each shareholder is compelled to feel the proper weight of his obligation at once; and however much his inclination would lead him to be a large shareholder his means interpose, which is the only safe protection in such cases. I am sure, Mr. Editor, I need not detail to you the numerous failures in mining, arising out of the non-payment of calls; and if the evil of a full exchequer has, in times past, led to extravagance, the watchful disposition which free traders have inculcated, and the strictness of a certain *Mining Journal*, leave very little chance for peculation in the present day.

In the good old tory times, it would scarcely have crept into the idea of men who were receiving a profit of 50,000*l.* a year, through the instrumentality of a certain mining gentleman, that his profit of 6d. in 1*l.* was too extravagant; but, under the teaching of a new school, all that liberality of feeling has passed away; and with good sound managers and committeemen, no one need fear that a full exchequer will jeopardise the funds of the company.

The great evil of the present day is the rage for cheap and gratuitous services; but the absurdity of such a notion does not require to be pointed out to you, however much the readers of your Journal may require the teaching thereon. It is the most unsatisfactory service received or rendered, and there is no greater mistake than for people to suppose such services are a saving to the concern. Whenever services are paid for, they can be commanded and demanded in a satisfactory and proper manner. Balance-sheets can be insisted upon, whereas I know a concern where nearly 6000*l.* have been expended, running over a period of five years (not a paid-up capital in full at starting), and no balance-sheet has been rendered, or can be obtained—the purser one of the "gratuitous service gentlemen." The company having a paid-up capital, will take care to appoint honest business men as guardians of their property. It may be done in other cases, but there is less disposition to undertake the office when a liability may be incurred without the funds in hand to meet it, and too often they have been self-elected.

How many mines have failed from the difficulty of collecting calls: and those who had embarked upon the faith that the undertaking would be fairly carried out, have had just cause to feel they were deceived. They lose their money, feel disgusted, and condemn mining pursuits ever after. If a paid-up capital at starting is calculated to remedy such an evil, and I see no better remedy, it will prove a lasting benefit to the investing public, by saving their money, and many a mine from ruin.—A SUFFERER: *Buckfastleigh, Feb.* 25.

MINES AND MINING—No. I.

SIR,—In your Journal of the 15th inst. there is an article under this head, by Mr. J. Paull, in which he finds fault with Mr. Hopkins for not giving more information respecting his superior mode of dressing tin ores, by which he (Mr. Hopkins) states he made a losing tin mine pay good profits. I am also of opinion that Mr. Hopkins gave but little information in the article referred to; and I have no doubt that many in this and the adjoining county, Cornwall, would heartily thank Mr. Hopkins for any information he might be plensed to give them, whereby they might be enabled to improve the present expensive mode of dressing tin. Mr. Paull states he has had some experience in tin matters, and so have I; Mr. Paull is much older than I am, and I hope I have proper respect for age and experience, but I cannot after all, from friend Paull's experience in tin matters, see that he has given us more information on the subject than did Mr. Hopkins, and in my opinion he has done worse. He states that the old stamps pit, in some instances, is indispensable for safe keeping; and I would thank friend Paull to point out one instance where the pit is preferable to the long tye. Now, Sir, I undertake to prove that the old pit is not necessary for safe keeping, unless, indeed, it be to keep friend Paull, or some other dim light of the old stamps' pit school, in a sort of alluvial soil, composed of sand and slime. I will now offer some few remarks, by your permission, on the comparative merits of the long tye and old stamps' pit. The long tye is the best thing to receive the work from the stamps, for the following reasons:—1. From its comparative narrowness to the old pit; the water which brings away the stuff from the stamps is just sufficient to cover its whole surface, and, consequently, the head, or that part of it nearest the stamps, is far richer than it is 6 ft. back. This is caused by the superior specific gravity of the tin over the other matters with which it may be mixed, which induces it to settle down at the head, while the waste or lighter substances are carried back with the stream.—2. There is little or no slime retained in the tye, as the water, from the inclination of the tye, is kept in rapid motion from its entering until it leaves, except for about 2 ft. from the tail, where it is dammed up to prevent the sandy matter from passing out, and the slime being held in solution passes over the dam into a still pool, where it is allowed to settle down alone.—3. The work is so nicely separated by this mode, that it can be dressed for less than one-half the expense than if it were received from the stamps in the old pit. The tye is generally 20 ft. long, 14 in. wide, depth no matter (usually about 12 in.), and from its narrowness, as before stated, the water necessary for stamping is just sufficient to cover its surface. I should state here that six stamps' heads is the number generally allowed to discharge into one pit or tye, as the case may be. The old pit is generally about 4 ft. wide, 10 ft. long, and 3 ft. deep. Now, taking the quantity of water necessary for six heads, you will find surface enough in the pit for nearly four such streams, and the consequence is that three-quarters of the surface has no water at all passing over it, or if any, the stream will be so small that it will have no power to carry back the waste or poor matters, and they will all settle down together—tin, waste, and slime; or the water will find its way into a narrow channel 4 or 6 in. wide, and carry back the tin with the waste beyond its proper place. In the next place, the pit must be stopped to prevent the work from passing out at the tail; and it is not uncommon to see 7 feet of the pit made by this stop a still pool, and, of course, the slime settles down here, and as the pit fills again another stopper is put in, and again it is a pool; so that when the pit is full it contains from 20 to 30 alternate floors of slime and sand, and as to tin, the head is very little better than the tail. The pit is now heaved up, and the dresser has to put the mass through another process, in order to separate the slime from the sand; and if he put any of it to the buddle, which is commonly done with a large portion of the pit, the slime it contains, and, consequently, fine tin, is worked into the tail of the buddle, then thrown up, and wheeled over the tail burrow, and no more seen; but not so with the tye. The slime is separated from the same as before described, in its discharge from the stamps, and the most is made of every part of the tin-work, which cannot be done when the old pit is used, and the difference against the old pit, in time or labour and loss of tin, is full 30 per cent.

I think that Mr. Paull, if he intended any one to profit by his remarks in your Journal, which we had a right to expect after his finding fault with Mr. Hopkins, should have told us the sort of grate he would recommend for any particular kind of tinstuff; and as he states there is a difference of sentiment respecting the mode of dressing tin ores by the process of grinding instead of stamping, I think he should have stated his own opinion, or his experience, in that particular. I am of opinion that those who are rightly informed in this matter all agree that it is the best mode for rich work. I hope that friend Paull, in his *Parochial History of Mining*, which he tells us he is preparing for the press, will not recommmend the old stamps' pit in any case; for surely those who set up for lights to guide the uninformed, should be careful to prove their principles before they recommend them to others.

East Crowndale Mine, Feb. 21. RICHARD WILLIAMS, Jun.

THE BANWEN IRON COMPANY.

> "BANWEN IRON COMPANY.—There was a meeting before the Master on Thursday (20th Feb.), but our reporter was denied admittance; we understand, however, the proceedings were very unsatisfactory, and that Dr. Barnett, one of the directors, and Mr. Harris, the secretary, were committed."

SIR,—As my name appears in the above paragraph, taken from your paper of the 22d inst., I beg you will correct the serious error made therein, that I was committed—an odium that has never occurred to me. In the first place, the object of my summons was to "show cause, &c.," which did not come on, from the Master not having time to hear it, and it was postponed.

In a former report in your paper of Feb. 1, my name is also associated with the original lease of the property *that was said to be lost*, in a way that would induce your readers to infer that I was privy to its concealment; whereas, the truth is, it was *I* who urged upon the Master the necessity that the claims of certain parties on the company might not be entertained until we heard or ascertained from them who had it, when Mr. Brown informed the Master that the secretary, Mr. Harris, had, the day previous to that meeting, found it; and on Mr. Harris entering the office, the Master immediately dispatched him for it.

London, Feb. 27. J. B. BARNETT.

THE "CORNISH CALIFORNIA."

SIR,—In your last Journal, there is an article purporting to be the report of a trial in the Court of Exchequer between Harvey and Towers; and as the counsel for defendant, by your report, made some misrepresentations, calculated to impugn my character by their circulation, I must beg leave to contradict them through the same channel. In the first instance, I beg most emphatically to deny ever having represented to Mr. Towers that Wheal an-Grose was more than a fair and legitimate speculation, which would require capital to develope, and bring to a successful result. I also beg most emphatically to deny ever having solicited Mr. Towers to become a shareholder in Wheal an-Grose, but he became one at his own desire; and during the interval which elapsed between the purchase of the shares and giving his acceptances, he had written to Cornwall, and obtained a report of the mine, with which he expressed himself satisfied, and gave me his acceptances. How could I have represented that the company did not want money when, in fact, I was disposing of my own shares, in which no company was interested? Mr. Towers afterwards visited the mine, and saw the agent, to whom he expressed himself perfectly satisfied with his purchase, and stated his readiness to advance 1000*l.* on his interest, for the effectual working of the mine. With regard to the prospectus read at the trial (though not in existence when Mr. Towers purchased), I defy the world to contradict an iota of it; the whole was substantially correct.

Mr. Towers, from the time of his purchase, in April last, refused to pay any of the current cost of the mine,—consequently he was summoned to the County Court at St. Columb, in Sept. last, for non-payment of 15*l.* At that court it was proved that I had overpaid the cost on those shares up to the time of their transfer; the result was that an execution for the debt and cost was unwarrantably put on the mine, and in defiance of notice and remonstrance on my part, a sale took place, at which sale a very great sacrifice was made, by the manner in which it was conducted. I ask you, Mr. Editor, what the most valuable engine in Cornwall would sell for, if submitted to sale by piecemeal in 10, 20, or more lots? It would resolve itself into the simple question, what is the value of old iron? The other materials, ores, &c., were sold in a similar manner. Probably this part will have an explanation before the Vice-Warden on his next sitting at Truro. With regard to the two evidences from St. Columb, who proved not having granted me a license to work in Wheal an-Grose, and on whose meagre evidence the imputation of fraud was set up), up to the time of their evidence, I was ignorant of their claim to any interest in the land (which is yet questionable, though, if any, their interest must be very limited), but rested satisfied with the licenses from the acknowledged lords of the soil and the bound-owner, so that no fraud could have been contemplated by me. With regard to the gross injustice done me at Chester by Paul Rabey, jun. (whose character, perhaps, I need not dilate on to you, and which will hereafter form the subject of legal investigation), suffice it to say, that he informed me he had sold 20 shares in Wheal an-Grose to a Mr. Nunn, at Liverpool, and that Mr. Nunn would remit 100*l.* in payment. The letter containing the 100*l.* would be addressed to him, but during his absence requested me to open it, which I did without hesitation, and on his return to Chester he instituted proceedings against me for so doing. His motive for doing this is obvious enough, as he had in the meantime married the sister-in-law of Towers, and by his conduct towards me, he thought to extort from me a release from his own and his brother-in-law's liabilities.

Your report omits to state that the judge was of opinion there was no defence to the action, and so directed the jury; but for this direction of the judge, myself and other witnesses from Cornwall and elsewhere, would have been examined in support of the plaintiff's claim, and such examination would most completely have removed all imputation of fraud. J. B. PELLEW.

Rose Cottage, Truro, Feb. 24.

WHEAL PROVIDENCE.

SIR,—In your last Number there is an editorial article, which seriously impugns the character and credit of those to whom the property and management of Wheal Providence is entrusted. A shareholder myself, I naturally became alarmed on reading it, and proceeded at once to the fountain-head for an elucidation of those "facts," which are put as beyond the reach of doubt, you "*having been at some pains to make yourself acquainted with the facts.*"

The purser of the mine, in answer to my queries, at once placed before me the cost-book itself, through which I proceeded page by page, in order to test the charge so gravely brought forward by you. After a careful search, I cannot find the least trace of such act as you allege. There is, on the contrary, manifest proof that nothing has either been "tampered with or destroyed;" the book is entire. There certainly is a "transfer" signed by "parties," and marked with the word "cancelled;" but, nevertheless, in its entire state, as evidence of a previous transaction. What that transaction may have been, it is a matter of private dispute between those interested in it, and does not in any way concern the shareholders generally.

There are all the "facts" which a careful search into the books of the concern disclose, and with them I am perfectly content; but, for the satisfaction of many who will have imbibed all the doubt and suspicion which your article is calculated to provoke, will you be good enough to state the grounds on which your remarks are based. Either your investigations or *mine* must be very much at fault; and, although I have directed my attention to every document which can concern either the shareholders or the public, without discovering anything even questionable, I am still under the impression that there must be something in the back ground to justify you, with your experience, in sending forth a statement of so serious a character, as to render both the writer and publisher amenable to the law of libel.—A SHAREHOLDER: *London, Feb.* 28.

[We had in type some remarks on the subject to which this letter refers, but the explanation contained in this communication, in a great measure, renders them unnecessary. The cost-book has been submitted to us, which we found in precisely the state described by our correspondent. It is of this cancellation Mr. Harvey complains; but he has, it appears, a dispute with parties who signed a transfer of shares to him, and who say they have, in consequence of his defaults, cancelled that transfer. But this proceeding has been done openly; no transfer has been removed from the cost-book, and notice was instantly given, now more than three weeks since, to Mr. Harvey of the cancellation. If he has any rights against those parties, they state they are ready to meet him in a court of law or equity. This explanation is due to the parties in question, particularly to the purser, who, of course, feels himself calumniated. Our remarks last week might have been premature, but we felt it to be our duty to say something on the subject, hearing that the purity of the Cost-book System had been attacked. We have only to say, that the affair resolves itself into a personal matter between Mr. Harvey and the other parties concerned, and has no reference whatever to the value of the mine.]

OUR SHARE LIST.

To place before our readers the Share List, which has now become a formidable affair from the great increase of the number of mines in the market, in such a form as shall best elucidate the true position of each adventure, and give the greatest facility for reference, has ever been our object, and for our exertions towards which results we think our mining friends will give us due credit. We have during the past 12 months received numerous suggestions for adoption, among which many were impracticable, others were, to our judgment, inferior to our own single alphabetical list, while some we considered, improvements, though involving some trouble and attention. After very attentive consideration, we adopted the plan of dividing the list into the various districts of Cornwall, with the others in their several divisions, with which we commenced the year, as giving a clearer view of the district and strata, and the neighbourhood of rich or poor mineral ground, than any other could have done. We regret to find this has not given the satisfaction we expected, having a few days since received the following requisition:—

We, the undersigned, Mining Brokers, and other parties interested in Mining Shares, have observed with much regret the late alteration in the SHARE LIST of the MINING JOURNAL, by which the facility of reference afforded by the entire List being in alphabetical order, is very much interfered with, and its present division into "districts" imposing much additional trouble in the search for a mine, even to those most conversant with the subject, and highly inconvenient to all—we PROTEST against the usefulness of the List in its present form, and recommend either a return to the arrangement as it existed previously to the alteration, or to some other more general classification, to meet the requirements of business, and facilitate a reference to the name, &c., of any particular mine. We would suggest the following:—

Column 1 ..... A List of all MINES IN CORNWALL.
" 2 ..... " " DEVON.
" 3 ..... " other MINES IN GREAT BRITAIN.
" 4 ..... " FOREIGN MINES.

We, therefore, willingly adopt the suggestion, although we still think that the alteration we made would in a few months, when the several divisions and mine neighbourhoods became clearly impressed on the minds of parties interested, have become better appreciated, and its value seen and understood. We have, however, now given way to the opinions of others, and placed the list in four divisions; and, while in that state we shall, to the utmost of our power, endeavour to keep it perfect, we hold out no expectations of making any further change, unless, under some peculiar circumstances, it should appear to ourselves advisable to do so.

TREMAR COPPER MINE.—The adventurers in this new adventure appear to have set to work with vigour; a large quantity of materials, machinery, &c., have been purchased at Caradon United Mine, with a view to immediate operations. They are also in treaty for the steam-engine from that mine, for which we are informed they are at present the highest bidder, though the bargain is not yet closed. The Caradon United adventurers are in high spirit at having shares in so good a mine, with a moderate outlay.

"NEW FUEL."—We are informed that "a locomotive engine is building in New York, for the Erie Railroad, in which nothing but 'alcohol' is to be used for heating the boiler. The principle of its construction is entirely new, but it is fully expected to be perfectly successful."

THE CLEVELAND IRONSTONE.—The Earl of Zetland, Mrs. Newcomen, and other landowners have granted leases of their ironstone in the neighbourhood of Middlesbrough and Redcar. One proprietor, it is said, has refused 2000*l.* per annum for his royalty.—*Gateshead Observer.*

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—Since the last report there has been but little done in the bottom of the mine, in consequence of the breaking of the air bucket-rod of the engine, and two or three other small things belonging to the engine and shaft work; and we find, as well as others, the water increases very much, but hope, as the season is so far advanced, it will be soon back to its usual course. The lode in the 70 fm. level, east of Field's engine-shaft, is 10 ft. wide; from 5 to 6 ft. of the north part is worth from 70*l.* to 80*l.* per fm; the stopes and tribute pitches over this level continue to look well. The lode in Wyld's shaft, sinking under the 60 fm. level, is 4 ft. wide, containing more ore than we have seen at any time since the shaft has been sinking: we think, before this shaft reaches the 70 fm. level, we shall have a good course of ore. The lode in the 10 fathom level, east of Wyld's shaft, continues to be about 18 inches wide, and is principally composed of gossan. No change in the lode in the adit level west of the engine-shaft. Our sampling on the 25th inst. will be about 215 tons, and would, but for the above-named breakages, have been at least 20 tons more.

APPLEDORE.—During the past week the work has progressed very favourably; we have opened on No. 1 lode about 100 fms. to the south of the opening alluded to in my last report, and I am happy to inform you that it still maintains its regular size and character, which is of the most promising appearance. I shall only open one part more on this lode at the surface, which, when done, will show its regularity for upwards of 200 fms. in Nos. 2 and 3 lodes. I hope to write more fully next week, when I believe we shall be in a position to determine on more effectual workings.

BEDFORD UNITED.—The lode in the 115 fm. level, east of the engine-shaft, is without alteration; in this level, east of Andrew's winze, the lode is 2½ ft. wide, producing good stones of ore; we have taken down no lode in this level west. The lode in the 103 fm. level east is 4 feet wide, and is worth about 10 tons of ore per fm.; there has been no lode taken down in Parker's winze in this level. In the 90 fm. level east the lode is producing saving work, and is a kindly lode; in Arscott's winze, in this level, the lode is 3½ ft. wide, and will produce from 12 to 14 tons of ore per fm. We are driving by the side of the lode in the 80 fm. level east.

BODMIN WHEAL MARY.—The shaft is sunk 6 fms. below the 10 fathom level. In the winze on No. 1 lode, 20 fms. west of shaft, we have cut a branch of ore on the foot-wall 10 in. wide, and one 3 in. wide, on the hanging-wall. There is more grey ore in this than I have seen in any part of the mine. In the winze on the same lode, 10 fathoms west of shaft, the lode is 10 ft. wide, with good stones of ore in places. The eastern winze, on No. 4 lode, is sinking in good tribute ground; the lode is from 2 to 2½ ft. wide; I expect it will be holed to the 10 fm. level in three weeks. On No. 3 lode, in the 10 fm. level, we have just cut through the heave; the lode is producing fine stones of ore. The pitch in the back of the adit has produced 5 tons of ore this month; the lode is 4 ft. wide—fine grey and yellow ore in the gossan. We shall send down 26 or 28 tons for the sampling on the 10th March. I would advise our working on No. 11 lode, as there is a good back, with fine ore in the gossan; much ore may be broken on this lode. The rocks of ore from No. 4 lode, for the Great Exhibition, have been duly forwarded.

BOTTLE HILL.—In the 12 fathom level, driving west, there is a fine lode of copper ore, worth 10*l.* per fm., and it is let at 30*s.* per fm; we have one stone of copper weighing 56 lbs., worth 10*l.* per ton as it is. We have set the end to drive west in the 24 fm. level, and we expect before long to cut the same deposits of copper ore. Our whim has this day (Feb. 25) gone to work in the deep adit. The leat is nearly completed. The stamps' wheel-pit is ready for the masons. We shall proceed to put up another whim. All our work is progressing rapidly.

BRYN-ARIAN.—The lode in the 10 fm. level, west of the engine-shaft, is 5 ft. wide, with some small branches of ore. The stopes in the bottom of the deep adit level west continue to yield from 10 to 12 cwts. of ore per fm. The pumps are all down in their places as deep as the 20 fm. level, and we hope to commence drawing out the water to-morrow. At Pensarn, the water is drawn out, and we have been cutting down a part of the lode left standing by the old men, to make more room for the large lift of pumps, and we find it to be 6 ft. wide, with a good mixture of ore throughout. We have been cutting this down about a week, and have broken several tons of ore. The men will commence sinking the engine-shaft about Monday next. The 30 tons of ore are shipped for Holywell, and enclosed is the bill of lading.

BUTTERDON.—We have cut through the slide south of engine-shaft in the 30 fm. level, when the men were instantly driven back by a great influx of water, which we have not been able to fork out as yet. I infer from this we have a promising lode before us, as it is a good sign to see the lode so freely let go water. We are preparing to put down a side lift, to fork the water out. The lode under the slide is carried 5 fms. further east than we anticipated,—consequently, instead of heaving the old lode west of the shaft, it is 2 ft. east of it.

CALLINGTON.—The balance-bob, rods, and lift are all fixed and made complete in the diagonal shaft, and the water in fork, and we have commenced sinking the same, and agreeably to the dip of the lode it will be in the shaft 2½ fms. below the 125 fm. level. The lode in the north end from this shaft is 14 in. wide, producing stones of lead—a very kindly lode, but for the present suspended, and 6 men put to rise above the level close to the end, to hole to the 112 fm. level, to ventilate both levels, and to lay the ground open for tribute, which to commence is soft, and set at 3*l.* 10*s.* per fm.; the lode in the south end is 10 inches wide, spotted with lead. The lode in the 112 fm. level north is 10 inches wide, producing 2 cwts. of lead per fm.; the lode in the south end at this level is 8 inches wide, producing stones of lead, and laying open tribute ground; the 112 fm. level, north from the south mine, driving towards the above-mentioned one, will produce 6 cwts. of lead per fathom; we hope to effect a communication here in about a month. The counting-house shaftmen are cutting plat at the 112, preparatory to sinking below this level; from the setting list you will perceive we have set three new pitches in the back of this level at 6*s.* 6*d.* and 7*s.* in the 1*l.*, on the value of the lead. Johnson's lode in the 125 fm. level east is 2 feet wide, composed of spar, mundic, tin, and copper ore, set at 6*l.* 10*s.* per fm. The same lode in the 112 fm. level east is 4 feet wide, of the same composition as the lode in the 125, but the ground is much harder; we have suspended this level for one month, and removed the men to drive the 70 fm. level south through the slide, to intersect the caunter part of the lead lode not yet seen, and which has proved so productive to the north of it. All other places on the lead lode are much the same as for some time past. Kelly Bray lode in the rise above the 70 fm. level is 3½ feet wide, producing 6 tons of copper ore per fm. In extending the 50 cross-cut north from the shaft, we are constantly cutting strings and branches dipping north, containing spar, copper, and mundic.

CONDURROW.—We have realised a little beyond the amount promised for tin at the last adventures' meeting, and the aggregate proceeds of the mine have exceeded the two months' cost by 544*l.* 16*s.* 1*d.*—out of this we have paid Coombe 110*l.*, the balance due to him for the lease of the mill and land: and the debt yet remaining may be liquidated at our next meeting in April. I can give nothing in the way of a report differing from that of December last; we are carrying on the same amount of tutwork—viz., 23 bargains. Our science does not enable us to say how far we shall have to explore those places to make valuable discoveries, but we entertain a good hope of being ultimately rewarded for our persevering enterprise; although we have not found much ore, generally in driving the levels, yet in working the backs we have raised a very fair quantity of ore and tin: and according to appearances, shall continue to return about the same amount. I have to remark that we have discovered a good stone of ore, mundic, and spar, in the 30 fm. level, east of Woolf's shaft, being the first valuable mineral we have found in working this level; and the appearance of the thing is altogether very promising—I am inclined to believe that I shall soon be able to report still more favourably of it. Woolf's shaft will be holed to the 50 fathom level in the course of a month; Hope's shaft to the 80 fathom level in less than three months; and Price's engine-shaft will be at the 10 0 fathom level in two months.

DEVON AND COURTENAY.—We have a very favourable change of ground in the 30 end; it is quite easy for driving, and congenial for ore; the lode has not been taken down since we have cut into it, but I think we must have ore in this ground. The lode in the 40 rise has not been taken down since last reported on, but I am satisfied, from the appearance of the back, it still continues good. The 60 end east and west continues the same.

EAST BALLESWIDDEN.—Since my last report, we have put in the frame of the wheel, and the axle is in its place, and the arms will be all in their places on Monday. We have also laid a bed of clay and turf in the bottom of the wheel-pit, and laid it over with close timber, which will make a secure water-way from the engine-shaft and the adit level. We shall put on all strength with carpenters and sawyers to finish the wheel as fast as possible. We are going on very favourably with our water-course o the wheel—next week will bring us close home to the wheel.

EAST CROWNDALE.—In the 50 fm. level east the lode is large and tinny, good saving work, but the size we cannot state as yet, not having seen the south wall: we have directed the men to cut south, and in the course of a post or two you shall have the result. The general character of the lode is improving every foot we drive, and we hope ere long to meet the rich bunch of tin going down in the level above. The 40 east we have suspended, and put the men to stope the back of the 40; we have also other six men stoping the back of the 40, and six stoping west of the winze lately communicated with the above level. From the general appearance of these stopes, we hope to increase our returns in future. Little or no alteration in our tribute department. Our last parcel of tin is in the market, but no bids as yet arrived.

EAST WHEAL GEORGE.—The cross-cut in the 23 fm. level is extended south of the engine-shaft. Five fms. at this point we have intersected the north wall of the lode, and have cut into it 6 in.: as far as it can be seen, it is presenting a very promising appearance, and from which I have just broken some fine specimens of ore, much better than were seen at this point above in the 12 fathom level. Much cannot be said about it at present, as the men have pretty much ground to take away before they can get fairly at the lode. The length of cross-cut in the 23 fm. level shows that the lode has about the same underlie from the 12 to the 23 fm. level as from the adit to the 12 fm. level, where the lode has been so productive; I hope, however, to give you more particulars as soon as it is cut through. The lode in the 12 fm. level, east of the engine-shaft, is also of a very promising character, being 3 ft. wide, producing some good work; in fact, it is looking better than it has done for the last 40 fms. driving. The stopes in the back of the 12 fm. level, west of the engine-shaft, are producing good work; at this point we are getting near the adit level, in places. We are now busily engaged in making floors for the dressing of the slimes. Our next sampling will be equal to the last. I beg to congratulate the adventurers on the present prospects of the mine; and I must say that I never saw it looking so promising as at present.

EAST WHEAL JOSIAH.—The lode in the adit end south is 3 ft. wide, composed principally of flookan, spar, mundic, &c., with a very pretty compact foot-wall underlaying east about 18 inches in a fathom, and also promising further improvement.

EAST WHEAL REETH.—The 10 fm. end is still the same; Capt. J. Wren, of Wheal Margaret, who inspected it this week, says it is worth from 9*l.* to 10*l.* per fm. for tin, which corresponds with what I before stated; we took down the lode on Friday the 21st inst., and found it much the same as when discovered; I have set six men to drive the end, so as to get under Wheal Glory bottoms, from which we are distant about 5 fms.; we are about 10 fms. from the caunter lode, which is set at 4*l.* 4*s.* per fm., instead of 5*l.* as last month, and I hope to intersect it in about a month from the present time, if the ground continues good. The whim will be ready to work next week.

EAST WHEAL RUSSEL.—We have sunk, since we set our engine to work, 8 ft. in Hitchins' shaft, and going on well. We have a fine lode of tin, about 8 ft. wide, of very good quality, which indicates a large quantity of copper ore, and I believe we shall not be long before it will be realised, as there is every prospect of it before us.

ESGAIR LLEE.—We have in the cross-cut north of the deep adit cut the north lode; it is 3 ft. wide, composed principally of gossan, slate, blende, and is spotted with lead, but not sufficient to set a value on. The lode in the 12 fm. level, east of Morgan's winze, is a little improved since my last, being 4 feet wide, with several small branches of ore in it, and from its general appearance we think it is soon likely to further improve. The lode in the winze below the 12 fm. level is much the same in appearance as stated in my last, and yielding from 10 to 15 cwts. of ore per fm.; the lode in the stopes, on an average, is looking well, and during the last fortnight we have, with a less number of hands, succeeded in raising and dressing a larger quantity of ore than in the same space of time since the crushing-mill has been erected; and if the lode in the stopes continues to yield as at present, we shall soon be ready to sample again.

HEIGNSTON DOWN CONSOLS.—The 45 fm. level has been driven since the last meeting 4 fathoms 4 feet, the lode throughout such drivage being on an average 3 ft. 6 in. wide, and produced some good saving work for copper ore; the last 6 ft. driven the lode has considerably improved, and will produce at present 4 tons of good quality ore per fm. The 35 fathom level has been driven 4 fms. 3 feet, the lode being large and kindly, producing occasional stones of ore, and promising further improvement; the cross-cut at this level towards the south lode has been driven 3 fms. 3 ft. through ground of a highly mineralised character; we hope to effect the communication between the rise in the back of the 35 fathom level to the 20 fm. level in the course of the coming month. Hitchins' shaft is sunk 3 fms. 2 ft. below the 35 fm. level, the lode in which is from 4 to 5 feet wide, and producing occasional stones of copper ore. The 35 fm. level is driven west of the said shaft about 8 fms., the lode in the present end being 2 ft. wide, composed of gossan and quartz, with a small proportion of copper ore. There is at surface about 20 tons of good quality ore, and from the present indications generally throughout the mine, I have not the least hesitation in saying they are such as to justify my most sanguine expectations.

HENNOCK.—The engine-shaft is down 3 fms. under the 20 fm. level, the ground still favourable, and the water very quick; in fact, all the water in the mine is coming from the bottom of the shaft. We have cut into the lode in the north end in the 20 fm. level about 4 ft., and am happy to inform you that the lode is far more kindly, and producing more lead than any other part that has been opened on before, and it is my opinion that we have a very valuable piece of ground before us in going north, even at the present level.

HOLMBUSH.—The ground in Hitchins' engine-shaft, sinking below the 120 fm. level, with that of the plat in the 132, is just the same as last reported on. The lode in the 132 fm. level, west of the great cross-course, is 12 in. wide, producing 1½ ton of ore per fm.; it appears from the change in the situation that we are getting near the lead course; the stopes in the back of the level will produce 5 tons of ore per fm. The lode in the 120 fm. level south is 3 feet wide, producing stones of lead; we have driven 7 or 8 feet south of the copper branch, at this level, but have not discovered any other part of the lode, and we are now driving west on the branch alluded to above, which will produce 1 ton of ore per fm. The flap-jack lode in the 120 fm. level, east of the great cross-course, is 20 in. wide, composed of spar, mundic, and stones of copper ore; there is a branch (or dropper) underlying south towards the lode, composed of beautiful spar and copper ore; and, no doubt, when it forms a junction with the lode, an improvement will be the result of the latter; the same lode in the 100 fm. level, west of Wall's shaft, is 3½ feet wide, composed of spar, mundic, blende, and stones of copper ore. The lode in the 100 fm. level, east of the great cross-course, is 2½ feet wide, producing 3 tons of ore per fm., at present; we are stoping the eastern end of the winze below the level, which will produce 4 tons of ore per fm. Since a communication has been made from the 120 to the 100 fm. level, the men have been removing footway, air-pipes, and preparing pass, to run the stuff through, &c. The midway level will produce 2 tons of ore per fathom. Wall's shaftmen are about such work as was mentioned in our last week's report.

KIRKCUDBRIGHTSHIRE.—The lode in the 74 end, west of Stewart's, is 2½ ft. wide, yielding 7 or 8 cwts. of lead to the fm. The lode in the winze above is 4 ft. wide, with good stones of ore. The lode in the 62 end, west of Gilpin's, is the same as last week, 5 ft. wide, with a small branch of ore. The lode in the rise over the 50 end west is still without ore. The lode in the 40 end west promises well; it is 4 ft. wide, yielding above half a ton to the fathom. The lode in the 30 end, west of Keith's shaft, is still unproductive.

LLWYNMALEES.—The 24 fathom level, east of London shaft, is in a fine-looking lode, in which is a good branch of ore, with every appearance of an improvement soon. The 24 fm. level, west of London shaft, is in good ore. The 14 fm. level west has not been looking so well as it did. The 8 fm. level west has again got into a very good lode. The 14 fm. level east contains some ore, and looks promising; the stopes over this level, west from western winze, are only on the eastern end of the shoots of ore we had in the 8 fm. level west, consequently do not yield much ore at present. The main part of the bunch is some fms. further west of us. The stopes over the 14 fm. level, east from western winze, are looking much the same as the stopes west of western winze; but, taking the mine generally, I never saw it looking so promising. The engine works as last reported.

LEWIS.—In the 90 cross-cut, south from engine-shaft, the ground continues hard. The north lode, in the 80, east from copper ore shaft, is 2 ft. wide, unproductive; in the cross-cut, south from said shaft, we have intersected the new lode, 4 in. wide, very rich work. The 50, west from copper ore shaft, is for the present suspended, and the men put to rise to the 40 for ventilation. The new lode in the 40, east of tin shaft, is 8 in. wide, opening tribute ground; this lode, west of copper ore shaft, is 18 in. wide, opening good tribute ground. Since my last report the rise in the back of the 30, west from copper ore shaft, on the new lode, is holed to the winze sinking under the 20, which has ventilated these levels, and we have resumed driving the ends. We are, at last, driving the 20 west from copper ore shaft on the copper lode, which is greatly improved; all the ground we have driven is tribute, with the exception of the first fathom. In other places there is no alteration since last reported.

MERLLYN.—Since my last the eastern part of the mine (whim-shaft) has been unwatered, and the bottom level east commenced driving; with the present direction of the lode about 8 fms. more have to be driven to the boundary; the lode in this end is worth 30*l.* per fm., with appearance of improvement; the western end from this shaft is not commenced driving, consequently, no alteration, but as last reported, worth about 12*l.* per fm. Preparations are making, by cutting plat and putting in penthouse for sinking the whim-shaft, which work will occupy the shaftmen some 10 days or a fortnight. The water will be got out on or before Saturday next from the engine-shaft, when the cross-cut will be resumed from said shaft to intersect the lode. All the bargains and pitches, including the cross-cut and the western end from the whim-shaft, will be re-set on Saturday, it being the setting-day.

MILL POOL.—I find the engine, and the line of flat-rods in connection with it to the standard lode, to be doing their work well, and fully adequate to develope the various points of the mine. I have examined the lode in the bottom of the engine-shaft, which is 4 fms. under the 10 fm. level, and consider it to be of a very promising character: It is full 2 ft. wide, and worth from 8*l.* to 10*l.* per fm.; and the stratum and appearance of it are decidedly favourable for mineral. On the north side, at the bottom of the shaft, there is a good branch of copper ore, 4 in. wide, and the remainder of the lode is good work for tin. In about six weeks this shaft may be expected to reach the 20 fm. level. The 10 fm. level west is driven from the shaft 10 fms., and throughout the whole of this distance has passed through a good tin lode: the present end has a lode 18 inches wide, good tribute ground; and as it has recently passed through a floor of spar, there is every reason to expect that this end will continue to improve. About 20 fms. behind this point an intersection will take place of the engine lode with the standard lode, and it is my opinion that this will be an exceedingly productive piece of ground. The eastern end is also driven about 10 or 12 fms. from the shaft; the lode all the way is a good tin lode, averaging about 18 in. wide: a flookan has just passed through it in the end, and has a little disordered it; but from the appearance of the lode in the adit level, you may safely calculate on a very extensive run of tin ground as you extend eastward. I should say that the present end, although disordered, is opening capital tribute ground. As there are many parallel lodes, of considerable promise, within a short distance of the present operations, I should strongly recommend you to put out a cross-cut at the 20 fm. level south, in order to intersect them; and as their underlay is northward towards the shaft, the distance you will have to drive will be comparatively trifling. The prospects of the mine will, in my opinion, fully warrant you in securing all the stamping power you can lay your hands on: both the ground and the lode are remarkably easy, and an immense quantity of good tinstuff can be immediately broken, which your present stamps is thoroughly inadequate to keep under. In conclusion, I beg to say that the mine will fully bear out your most sanguine expectations, and only requires the means to return the stuff to make her a good paying mine.

NEW COPPER BOTTOM CONSOLS.—Since my last report we have driven 2 feet east of the cross-course, and find the great east and west lode to be altogether disordered; there is a quantity of water coming from it, which denotes soft ground to be near. This change is nothing more than we might expect for the cross-course, which is 3 ft. wide, to make,—consequently we may have to drive 2 or 3 fms. before the lode gets in its right character, or it may be no more than as many feet. However, I hope next week I shall be able to say that we have got into a good bunch of ore.

NEW EAST CROWNDALE.—I should have called a meeting before, had I been in such a position as I now am to inform you of the treaty I have entered into with Mr. Square respecting the extension of the sett. Mr. Square having had a grant of Mr. E. Willcock's land to the east of our boundary, on the course of the lodes, which, I considered, would be a very desirable acquisition to ours, I have given over the use of the water which was granted me by the late Rev. P. Sieman, and confirmed by his successor, the Rev. R. Sieman, for the closes of land delineated on the plan presented. I am also to have the use of the same water after it is discharged from the adit in the United Mines, Tavistock, whereby it can be brought on the wheel with other streams, and the water that will be pumped from their shaft, as heretofore, which will be made available for the working such machinery as circumstances may require. At the last meeting, held on the 17th March, 1846, it was resolved that the shares in the mine should be sub-divided, and one half of the mine be offered to the public, to raise a capital to erect such machinery as was considered necessary for the further development of the lode in the 24 fm. and deeper levels, as the power applied was insufficient to carry out the operations of the mine as the prospects presented warranted. The very limited exploration of the lode after its intersection by cross-cut from the engine-shaft, in the 24 fm. level, was far from being satisfactorily proved; but the improvement in the 14 and adit levels was equal to my expectations, and I have no doubt, when opened on in the 24 and deeper levels, it will prove to be productive and beneficial, as it has been wherever the same lode has been operated on in the Crowndale, Crebor, and west of those points. I should not exaggerate in asserting that this lode has produced, within three miles to the west of the great cross-course, near our western boundary, more than 1,000,000*l.* sterling worth of copper ore, leaving immense profits to the proprietors. The greatest portion of the ore has been risen within 50 fms. from the surface; therefore, the chances are that the capital required to prove this piece of mineral ground will be trifling compared with mines generally; and I have no hesitation in saying that it is one of the most eligible pieces of ground for investment of capital that has been opened on for several years; it possesses similar characteristics to the mines alluded to, both in the structure of the lode at the same depth, and the strata, with the underlay of the lode precisely on the same angle north (22°). I think it will be advisable to drive the 14 fm. level east on the course of the lode, which can be done with the water-wheel, as it will be absolutely necessary for facilitating the operations of the mine, ventilation, &c., as well as the chances of making discoveries to a greater extent, whereby, with a spirited prosecution, profitable results are likely to be the reward of our labours.

NORTH BASSET.—The lode in the 82 fm. level is 3 ft. wide, composed of grey and black ore, mixed with spar; the lode in the rise in the back of this level is 5 ft. wide, a good lode of grey ore. The lode in the 72 fm. level is 3 ft. wide, a beautiful lode of grey and black ore; the lode in the winze sinking below this level, east of the cross-course, is 6 ft. wide, a good lode of grey ore (this winze is about 10 fms. east of the 82 end). The lode in the 62 fm. level is 2 ft. wide, composed of gossan, with stones of grey ore; we have the water in the winze under this level, but expect it will be dry again in a few days, as we have cut the same bunch of ore in the 72 fm. level end. The new shaft is down to the 72 fathom level, and we shall prepare to sink under the level as soon as possible.

NORTH BULLER.—The ground in Louisa engine-shaft is still favourable for sinking, and is much the same in character as when last reported. Yesterday, being our usual monthly setting, we set the engine-shaft to sink by nine men, 3 fms., or the month, at 13*l.* per fm.; it is now down 27 fms. 2 ft. from surface. In driving east of the valley, we have intersected another large cross-course, and, from the direction, it is the same where the lodes have made such large deposits of ore in West Buller. The lode we have been driving on in the adit we find to be too far north for King's lode, and have now

agreed to drive south on the cross-course to intersect it, the ground being more favourable; we have set 2 fms. at 3*l.* per fm. The engine, pitwork, &c., are in good working order, and in all other particulars the mine continues as last reported.

NORTH WHEAL FRIENDSHIP.—I am glad to say that the 30 fathom level, west from Buller's shaft, is considerably improved since my last, the leading part of the lode being 2 ft. big, containing beautiful stones of copper ore, with branches of ore passing into the north wall. We are still driving by the side of the lode in the 32 fathom level, north from machine-shaft. In the 12 fm. level, driving north from Job's shaft, the lode is increased in size, being nearly 2 feet big, with portions of lead, but not of much importance. We are at present driving in the rock in the deep adit level, but hope to meet with the west lode in a few fathoms more driving. On Monday last we sampled 16 tons of lead ores, of good quality.

PENTIRE GLAZE AND PENTIRE UNITED.—The 22 fm. level below the adit, north of the engine-shaft, is not far south of Boundary shaft; I expect we shall nearly get under it by Saturday next. The first stone of lead that was ever seen broken in this level was taken up yesterday. It is likely we are driving on the slide, as it is evident we have a large lode to the west of us; this lode must be cross-cut about Boundary shaft. Boundary shaft is about 7½ fms. below the 10 fm. level. I think the ground in it is congenial for lead; but we are sinking over what is considered to be the main part of the lode; the 10 fm. level south, on the intermediate lode, is looking very well; the main part of the lode is about 12 in. wide, producing most excellent lead work; I calculate it will yield 1½ ton per fathom. The 23 fm. level, above the adit, is not so good as last reported; but is yielding some good lead work. The tributers, I think, may get wages; but their pitches are poor for the present. We connected the engine with South Hill Mine on Saturday last; and, if all goes on well, the water will be in fork by to-morrow morning. We have a sad mess here, for the water has run the levels together in some places. I have put men to clear it; but it remains to be proved to what extent the levels are filled. The takers of the halvans will raise about 8 tons of lead this month.—*Feb.* 27.

PENZANCE CONSOLS.—Since our last report, we are driving our 24 fm. level end west by four men; the lode is large, of a soft nature, mixed with spar and soft granite, with excellent stones of tin: it is a very kindly end, and will well pay for driving, and give profit to the adventurers. We are still driving our cross-cut south, and have cut several good branches of tin, which we have set on tribute. We expect to cut several more branches of tin before we cut our south lode. In our 24 fm. level end east we have a good lode of tin; the ground, however, is hard, so we cannot make quick discovery in it. To the north of our main lode, we are costeaning on the back of more lodes, which we have every reason to expect will prove productive, and beneficial to the mine. In consequence of the great quantity of rain, we have been hindered from working several places in which we hope to make great discoveries when the season is further advanced. Our tribute pitches are looking well, and promise to raise a great quantity of tin this month.

— *February* 26.—We are still driving our cross-cut south, west from Carthew's shaft, the ground being very hard. We are crossing branches of tin, and think that we are not far from one of our south lodes. Four men are employed driving our 24 fm. level west—there is little alteration in the lode since last report; it is from 6 to 9 ft. wide, with good stones of tin, and is worthy of a trial. In our 24 fm. level east we have a good lode of tin, and in our 18 fm. level end west we have gone across several branches, on which at present we have not made much trial. Our tributes are still going on well.

PERRAN ST. GEORGE.—Since our first discovery of Way's lode (the lode on which our operations are now principally confined, and at that part of the mine which we usually call Giddy's) we have driven the adit level on it about 75 fms., stoped it in the back of the adit level about 170 fms., sunk three winzes on it below the adit level to the depth respectively of 9, 8, and 8 fms., sunk Hodges's shaft on it 20 fms., opened the 10 fm. level on it 16 fms., and sunk a winze on it below the 10 fm. level to the depth of 6 fms.—making, in the aggregate, 312 fms., which, by the quantity of ore which we have already sold, with that which we calculate we have now on the mine, have yielded about 1480 tons—making, per average of all the lode taken away, more than 4¾ tons of ore per fathom, worth full 5*l.* per ton. Hodges's shaft, which is situate near the western extremity of our workings, on this lode, is now completed to the 20 fm. level—the deepest point at which Way's lode has yet been discovered. This shaft took the lode at about the adit level, and has continued it on to its present depth, yielding for the whole of that distance a far greater quantity of ore than the above-stated average. However, at a very little distance, west of the shaft, the lode changes into a strong goosan, which dips just perpendicularly, and continues in that direction to about 4 fms. below the 10 fm. level; consequently, we cannot calculate on a continuance of ore far to the west until we reach a deeper level. The winze to the west of Hodges' shaft, which we are now sinking towards the 20 fm. level, was commenced from the 10 in this gossan, which continued to the above-stated depth, where it changed, and the lode is now worth 60*l.* per fathom. We consider the continuance of such a masterly and strong gossan to such a depth, a very kindly symptom; and we have no doubt of finding large deposits of ore underneath it. At Devonshire's, the only other part of the mine where we have discovered Way's lode, we have driven the adit level on it about 24 fms., yielding about 1¼ ton of ore per fm., and the 10 fm. level 9 fms., yielding 3 tons of ore per fm. In the latter level the lode is not only improved as regards the difference in the quantity of ore which it produces, compared with the adit, but it is also larger, more compact, and very much better defined; and we have great hopes of a still further improvement in the deeper levels. We have commenced another cross-cut south towards it from Devonshire's engine-shaft in the 20 fm. level, and expect to reach it in driving about 12 fms. The distance between the extreme points on Way's lode, at Giddy's and Devonshire's, is about 116 fms. The proximity of Devonshire's engine-shaft to Way's lode renders it available in less time, and by less expense, than it would be under ordinary circumstances, as we have now only a short distance to drive to reach it; and as it is at the south of the shaft, and its underlay being north, that distance becomes less at every deeper level, until we reach the junction of the lode with the shaft, which we calculate will be at about the 80 fm. level; this shaft is now down to the 70 fathom level, to which depth it was sunk by the English Mining Association, for the purpose of working Lemmon's lode—a lode to the north of the shaft, underlaying south, and which we calculate will pass through it at about the same level as will Way's lode; consequently, there will be a junction of the two lodes at that place, and the effect of which we have no reason to calculate will be anything but favourable; so you perceive that this shaft could not possibly be placed in a better position for commanding Way's lode, as well as the lode for which it was purposely sunk. At Goodfortune, we have holed the main winze on the caunter lode, in the east of John's shaft, from the adit to the 10 fm. level, and have removed the men to enlarge the 10 fm. level plat at John's shaft, in order to sink as soon as possible towards the 20. The 10 fm. level, west of John's shaft, on Wheal Prudence lode, is looking more kindly than it has been for some time past, and will now yield about 1½ ton of ore per fathom. We have not considered it necessary to particularise to you all the different points in operation on Way's lode, but thought that a better idea of its value might be conveyed to the meeting by a statement, such as we now hand you, of its average produce per fathom, throughout the whole workings on it. However, you may, at the same time, be glad to be informed that, according to the present appearance of all of the places, compared with that statement, there is no appearance of a falling off; and we are proud of being in a position to congratulate you on not simply the improved state of the mine, but also on the something more than probability of your being amply compensated for your patience with us, and perseverance with the mines.

SOUTH PLAIN WOOD.—We are still sinking Gabriel's engine-shaft on Horsey-hill; it will be down 15 fms. at the end of this week, when it will be necessary to divide the shaft, put in a footway, and cut a plat—this being done, we shall commence driving a cross-cut north and south, to intersect Camplin's and Nicholson's lodes. We have driven a cross cut about 2 fms. south in the bottom of South Plain Wood shaft, and cut the caunter lode, which has changed its underlie to the south, the lode is about 1½ ft. wide, and appears to be opening wide as it is going down, it is composed of mundic, peach, and spar, with two good walls, having a good deal of water; we purpose driving the cross-cut a short distance further, to see if we can meet with any droppers coming into the lode. We have taken down some of Nicholson's lode in different places in the adit level, and find it to be very promising, with good stones of ore; we have also sunk about 6 ft. in the bottom of the level; the lode here is about 2 to 2½ feet wide, composed of mundic, peach, and spar, with good stones of ore and two good walls; the lode is altogether very promising.

SOUTH TOLGUS.—The 42 east, on the south lode, is producing 3 tons of ore per fm. Youren's lode, in the 22 east, is yielding 1½ ton per fm.; the same lode west 1½ ton per fm. The north lode, in the 12 west, is yielding 1 ton per fm. The south lode, in the adit east, is 2½ ft. wide, yielding 1 ton per fm. The ends of the other levels are at present unproductive.

SOUTH WHEAL TRELAWNY.—We are still continuing to drive south on the branch we cut in the eastern cross-cut, with six men. We also extended last month on the above branch 2 fms. 4 ft. 8 in.; it is extended 17 fms. from shaft. I also anticipate that there is an improvement since last account. The ground is in a more settled state, and it appears the lode is forming itself more regularly; it is composed of barytes, capels, killas, and a great deal of mundic.

TAMAR SILVER-LEAD.—In the winze rising in the back of the 205 fm. level the lode is 1 ft. wide, rich work. In the 190 end the lode is 18 in. wide, 6 in. of which is producing work of a coarse quality. In the 175 end the lode is 2 ft. wide, composed of flookan and ore, saving work. In the 160 end the lode is 4 feet wide, orey throughout, and yielding work of a congenial appearance for silver-lead ores. In the 145 end the lode is 1 ft. wide, occasionally producing good stones of ore. At Spurgin's, the engine-shaft is sunk 6 ft. below the 160 fm. level; the lode in this shaft is 2 ft. wide, 1 ft. of which is producing work of a profitable nature. At the north mine, in the 90 fm. level, the lode is 6 in. wide, good stamps' work. In the 80 fm. level the lode is 18 in. wide, composed of capel and fluor-spar, with good stones of ore. In the 70 fathom level the lode is 4 ft. wide, composed of fluor-spar, intermixed with ore; in the winze sinking in the bottom of this level the lode is 2 ft. wide, good saving work.

TINCROFT.—Highburrow tin lode, at the engine-shaft, sinking under the 152 fm. level is 6 ft. wide, worth 15*l.* per fm. In the 142 fm. level, east of Martin's east shaft, the lode is 4½ ft. wide, worth 18*l.* per fm. In the 132 fm. level east the lode is 4½ ft. wide, worth 38*l.* per fathom; in the winze sinking under this level the lode is 4 ft. wide, worth 15*l.* per fathom. Chapple's lode, in the 120 fm. level, west of engine-shaft, is 3½ ft. wide, worth 15*l.* per fm. for tin and copper. In the winze sinking under the 100, west of downright shaft, the lode is 5 ft. wide, worth 15*l.* per fm. for copper; we are rising in the back of this level, lode yielding good saving work. On Grout's lode we are extending the 70 and 80 fm. levels on the south or flookan part. At North Tincroft the lode in the engine-shaft, sinking under the 110 fm. level, is 4 ft. wide, saving work. In the 110 east the lode is 3½ ft. wide, worth 12*l.* per fm.; in the west end, same level, the lode is 3 ft. wide, worth 15*l.* per fm. In the 100 fm. level, east of Willoughby's shaft, the lode is 3 ft. wide, worth 10*l.* per fathom for tin and copper. In the 100 fm. level, west of engine-shaft, the lode is 7 ft. wide, worth 20*l.* per fathom for copper. In the 90, east of Willoughby's, the lode is 3 ft. wide, worth 5*l.* per fathom for tin and copper. In the 90, west of engine-shaft, the lode is 3 ft. wide, worth 5*l.* per fm.—this end is about 3 fms. from boundary; in the winze sinking under the 90, on south lode, the lode is 3 ft. wide, producing good stones of ore. East Pool lode, at Palmer's shaft, sinking under the 100 fm. level, is 2 ft. wide, worth 10*l.* per fm.

TRELAWNY.—Trelawny shaft is 4 fms. below the 92 fm. level, and is in full course of sinking by eight men, and three to wages, ground rather hard. In the 92 end north the lode is 3 ft. wide, worth 9*l.* per fm.; in the south end, same level, the lode is 3½ ft. wide, worth 8*l.* per fm. In the 82 end north the lode is 4 ft. wide, worth 9*l.* per fm.; we have holed the winze in the bottom of this level. In the 72 north the lode is 3 ft. wide, worth 8*l.* per fm. At the north mine, in the 68 end, north of Trehane, the lode is 2 ft. wide, worth 8*l.* per fm. Smith's shaft is down 5 fms. below the 55 fm. level, ground favourable. In the 55 end, north of ditto, the lode is 18 in. wide, worth 5*l.* per fm. In the winze in the bottom of the 40, north of the shaft, the lode is 1 ft. wide, worth 4*l.* per fm. Our stopes are usually productive. We shipped yesterday (Feb. 24) the cosp parcel of ores sold to Messrs. Walker, Parker, and Co. on the 24th December last; it weighed 103 tons 19 cwts. 2 qrs.

TRELEIGH CONSOLS.—Christoe Lode: In the 100 fm. level, west of Garden's, the lode is 15 in. wide, with stones of ore. In the 90 fm. level, west of ditto, the lode is 2 ft. wide, worth 18*l.* per fm.; in the stopes above this level the lode is 18 inches wide, worth 12*l.* per fm. In the 70 fm. level, west of Garden's, the lode is 15 in. wide, with stones of ore.—Parent Lode: At Parent-engine-shaft, below the 52 fm. level, we are sinking in the country. From the 30 fm. level, east of ditto, the men have been employed about the stamps this week; they will drive the 30 east of Parent next week.—Middle Lode: The 40 fm. level, east of cross-cut, is suspended for the present; the rise above this level is also suspended for the present: the men are employed sinking Burgess' shaft, which we are sinking in the country from surface.

TRELOWETH.—The engine-shaft is to-day set to sink below the 32 fm. level—10 fms. at 12*l.* 12s. per fm., to 12 men; it is down 2½ fms. below the level already, sunk for bearers, cistern, &c. The plunger lift works well, and the water-course is four strokes per minute. The 32 cross-cut is lower south 7 fms.—that is 13 ft. this week, and I hope we shall go rapidly into the Penpon's, main, and south lodes, which I trust will do something towards producing copper ore, to assist in the outlay.

TRETHEVY.—The shaftmen for the last week have been employed in timbering the plat, casing the shaft, and making other necessary preparations to let the kibble down to take up the stuff from the 32 fm. level. This was finished on Saturday last, and the kibble has been sent down, and a large pile of stuff drawn up. The men will immediately commence operations to cut through the lode, and I hope that it will be a good one. However, enough has been seen by myself and others to tell us that large deposits of copper exist in this lode. I shall be in a position to speak more fully of its properties by our next general meeting, as we shall have to drive a few fms. east and west on its course, to let down the water. We have a railroad fixed for putting off the stuff from the shaft, which saves the expense of one man when we are driving. The balance bob is nearly completed, and will be set to work during the present week.

TYN-Y-WORGLODD SLATE QUARRY.—The following is an extract from Mr. St. Pierre Foley's monthly report:—All the contracts for this month have progressed most satisfactorily, and the appearance of the rock everywhere is good; still however, the unavoidable falling of the rubbish into the quarry No. 1, makes it appear not only unsightly, but prevents us from making slates on any part of this quarry; in the meantime, the waggons are in constant requisition day and night, so as to remove (in the present month) so much of the rubbish as will enable us to open this quarry to proper work. From the surface work of No. 2 excellent slates have been made. The tunnel west into the old quarries is driven the length to rise upon, and this day I set the rising by contract, which work, when completed, will open a passage to the bottom. This will be done in about a month, and, when done, will greatly expedite the old clearings, and open, of course, the old vein from the tunnel. As fine blocks of slate as ever came out of a quarry have been taken down here, and splendid slates made therefrom—nothing can exceed the quality of this rock. When we have the quarry open to the surface-floor of No. 2, from this tunnel, we shall get on right well, as the floor is quite sound. With all the difficulties we have had to overcome, from rubbish, &c., and though only able to keep a few slatemakers at work, we have made during the month 22,500 slates of various sizes.

TYWARNHAYLE AND NANCEKUKE.—The 90 fathom level, east of Bennett's shaft, is producing 10 tons of good ore per fm. Bennett's shaft, sinking below the 90, is also yielding 10 tons per fm. for the length of shaft (12 ft.) The 80, east of Bennett's shaft, is improved, producing 1 ton per fm.; the 80 west, 2½ tons per fm. The winze from the 80, east on the caunter lode, will turn out 4 tons per fm. The 60, east on Taylor's lode, is improved, producing 1 ton per fm.; the 60, east in south Towan, is yielding 1½ to 3 tons per fm.: 380 tons of good ore have been sampled, all adventurers' ore, the tributers' ore and ore from Nancekuke, being left to the next month's sampling.

WEST GOGINAN.—The south lode, east of the shaft, is 6 feet wide, composed principally of gossan, mixed with jack and lead ore. The north lode, east of ditto, is 5 ft. wide, composed of gossan, killas, with a mixture of jack, and spotted with lead ore.

WEST PAR CONSOLS.—At Vounder, we have driven the cross-cut south 5 fms.; we have not yet cut the brown lode; the cross-cut north is driven 14 fms.; we expect daily to cut the north lode; the ground is very good, plenty of water. At Floyd's shaft we are down 4½ fms. below the 12 fm. level. We have a good lode in the 7s. pitch. The Vounder is now in good working order. Swab's shaft is sunk 3 fms. 3 ft.; this, month ground as usual.

WEST PHŒNIX.—We have discovered a large stream of water rising up from the back of the old men's adit, and likewise drained one of the shafts, which we have commenced clearing up; however, we have not completed the open cutting as yet, for it has proved to be more work and more troublesome to do than what I anticipated at the commencement. The building of the engine-house is progressing very satisfactorily, and I am also of opinion that, if the weather proves favourable, we shall accomplish it in about three weeks from this time.

WEST WHEAL JEWEL.—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, no lode taken down in the past week; when last taken down, worth 5*l.* per fm. In Carkeek's winze, sinking below the above level, the lode is unproductive. The 57 fm. level, west of Hodge's cross-course, on Tolcarne tin lode, is unproductive; the 57 fm. level, east of Hodge's cross-course, on the same lode, is worth 4*l.* per fm.; the rise in the back of the 57, west of Hodge's cross-course, on the same lode, is worth 28*l.* per fm. The shallow adit level, west of Tregoning's shaft, on the same lode, is worth 7*l.* per fm. The stopes in the back of the 12 fathom level, west of Fryor's winze, on the same lode, are worth 10*l.* per fm.; the stopes in the bottom of the 12 fm. level, east of Tregoning's shaft, on Tolcarne tin lode, are worth 27*l.* per fm.; the stopes in the bottom of the 12 fm. level, west of Tregoning's winze, on same lode, worth 24*l.* per fm.

WEST WHEAL TOWAN.—The erection of the stamps for crushing the tinstuff is going on favourably. The progress in driving the several levels and cross-cuts in the mines is also satisfactory. The ground in the 20 cross-cut, driving towards Great Wheal Towan lode, is a little harder, and there is an appearance of an approach to a lode. Caroline's shaft has passed through a lode 1 to 2 ft. wide, producing good stones of tin. The adit west, on Wheal Tye, has passed through a good bunch of tin, but is now disordered. The adit east on Taylor's lode is composed of mundic, yellow ore, and white lead ore, and very promising. The only productive point for copper at present working is the stope in the back of the 20 fm. level, on the Middle-works lode, which is producing good work.

WEST WHEAL VIRGIN.—Our engine-shaft is now down 11 fms. under the 9 fm. level, and the lode has improved every fathom in depth—we have a good lode of tin going down in the bottom of the shaft. We are now cutting the ground to put in the cistern, in order that we may be able to sink the shaft before we cut the fork. We shall then put in the cistern, and fix the lift to work a 7-inch pole, and then we shall drive east and west of the engine shaft, which will enable us to put more men to work, and raise more tin. The water has now abated, and in the course of the month we shall be able to work on more of the lodes. On the whole, we never had better prospects than we have at this time.

WHEAL ADAMS.—In the 72 fathom level we have again met with a slide, through which we are now crossing. These slides of compact black slate evidently keep back the water, and hence the ineffectual drainage of the 60. We have placed nine men to sink in the 60, but, should the water be too powerful for manual labour, we purpose to place them in the 72 to rise, for although this method of working will put the men driving the end to some inconvenience, yet it is the only plan left whereby we can both drain and ventilate this piece of ground for effectual development and exploration, and the fact will be ascertained to-morrow morning (25th Feb.) The 60 rise, in the black ground, is improved, and the 50 rise without alteration. The stopes in the 40 rise, north of the old shaft, will produce 9 cwts. of lead per fm. The 28 is a little improved, with very promising indications. The 40 is still driving by the side of the lode. We shall cross-cut in the course of the week. At Aller we have been dialling and levelling to-day (24th Jan.), and hope to make out the plans to-morrow. We will give the exact lengths of Wheal Adams and Aller setts.

WHEAL ARTHUR.—The mine is generally looking well, and I have set the same two pitches on tribute on the copper lode at the former price of 10s. in the 1*l.* I have put six men to drive north on the silver-lead lode at 3*l.* 10s. per fm., on the branch from which I send you specimens; it is looking very well, and if it continues as it at present appears, will well pay for driving to cut the north copper lode.

WHEAL AUGUSTA.—We have six men still sinking the engine-shaft under the 18 fm. level, and am glad to say we have a pretty good lode of tin going down. The 18 fm. level, which is driving west from the engine-shaft, continues to improve; here there is a good lode, about 4 ft. wide, producing good tinstuff. The lode in the 18 fm. level, east of the engine-shaft, is looking very well; and in stoping the back of the same level the men are breaking good tin. I am looking forward with much pleasure, when the engine-shaft lode, and the lode to the east, which is in the bottom of the 18 fathom level dipping west, intersect each other, as both now contain tin, and the eastern lode very rich, so that large deposits of tin must result from such intersection. It is my intention to put our men to cut two other lodes in the course of a few days; and as this can be done with very little expense, I think it will greatly enhance the value of this mine. I have purposed to get out the section, which you may expect before the next meeting.

WHEAL CREBOR.—Mr. Arthur Dean, writing from Tavistock, on the 22d Feb., says:—A fortnight's stay here has enabled me to give a good deal of time and attention to this mine, and I much regret that I cannot attend the general meeting, to convey verbally my impression as to our future prospects. To-day I have been through all the underground workings, and find a general and marked improvement since my previous visit on the 22d of Jan.; on that day, and in the adit end west, I had the pleasure of cutting the first ore, on the west side of the lately discovered cross-course; since then a rise has been made on the course of the lode to the height of 9 fms., which has passed through a course of rich ore, worth from 20*l.* to 30*l.* per fm., for the greater part of that height. There yet remains 4 or 5 fathoms to be risen through, to reach the level of the 40 fm. level above, which will be accomplished by the middle of next month. The discovery of the new cross-course, and the great improvement found on its west side, induced the pushing on of the 40 fm. level to get through the cross-course, and communicate with the rise from the 54, in order to ventilate the adit end, where the air is very bad indeed. The lode driven upon in the 40, is not apparently the same as that on which the rise is being made, or, at all events, it is a distinct branch, and a cross-cut north, of a few fms., will be necessary, to intersect the rise. This morning the 40 fm. level penetrated the cross-course, and reached its western side, and has been continued about 3 ft. beyond it. At 3 o'clock this afternoon, I had again the pleasure of cutting the first ore west of the cross-course; on the south side of the level, a small string of rich black ore showed itself, and by cutting in a few inches in depth, it was found to enlarge considerably, and presents precisely the same appearances as I first saw in the adit end under the course of ore. The main part of the lode is apparently slightly heaved south, but time did not permit of any further operations to try the lode to-day. The change in the appearance of the lodes and killas on the west side of the cross-course is most striking—I never saw finer stuff in any mine; the lodes are composed of soft spar, prian, gossan, and ore; the killas is of a fine soft white kind, and the cross-course is of a character rarely to be met with. In two or three weeks the ventilation in that part of the mine will be perfected, and until then the driving of the 40 and 54 must be suspended, as the necessity for fresh air is paramount to all other considerations. Two months hence these levels will probably be advanced 20 fms. further west, and the character of the new discoveries will be much more developed. Should the present flattering prospects be confirmed, of which I have no doubt, it will be necessary for the shareholders, at the next meeting in April next, to authorise the erection of machinery, to unwater the mine below the adit at Rundle shaft, which is already sunk upwards of 50 fms. beneath it, and from which, levels at 10, 20, 30, 40, and 50 fms., have been driven west, within an average distance of 25 fms. from the new cross-course. By vigorous operations we might, by the end of the current year, have an entirely new mine opened west of the cross-course, with eight levels driving in the new ground, and an effective trial of the lodes making at upwards of 100 fms. beneath the surface. I learn that only one or two lodes were formerly worked at Rundle shaft below the adit, and east of the new cross-course, and from these 30,000*l.* worth of ore was raised, and we know that there are several parallel lodes and branches within a short distance north and south of the old workings, which have never been reached, so that by draining the shaft we shall be able to prove all these lodes on both sides of the cross-course by a very moderate outlay of capital. In the eastern part of the mine considerable improvement has occurred in the south lode, at the 12 fm. level west of Cock shaft; the lode has changed from a north to a south underlie, is large, of promising character, contains strings of lead and copper ore, and the end is rapidly approaching the great eastern cross course, on the west side of which we may look for a decided change for the better. A tribute pitch will be immediately set to six men to stope the back of the 24 fm. level, under the Earl of Devon's land. In the dressing department not much has been done, owing to the delay in the Earl of Devon's matter, and from the hindrances caused by the exceedingly wet season just passed. By the end of April, we may expect to have a batch of 50 tons ready for sale, most of which will be high-priced ore. The letter of license for Mr. Rice's land has not yet been executed—I have seen Mr. Ward, one of his guardians, and he has promised that it shall be done forthwith, so that I hope that matter will be completed next week, and then more may be said about that piece of ground. The greatest zeal has been displayed by the men, as well as the agents, during the last month; and in the western parts of the mine a surprising amount of work has been performed in spite of the bad quality of the air, in which a candle could with difficulty be kept alight during five consecutive minutes.

Capt. James Richards says,—In the 12 fm. level, west of Cock shaft, 7 fms. have been driven, and throughout this extent, the lode may be said to be kindly, averaging 2½ feet wide, composed of capels, quartz, mundic, peach, and occasionally good stones of ore. In the present end an improvement appears to be taking place, the lode becoming larger, and its underlay changed from north to south. The cross-cut south of Gill shaft, at the 20 fm. level, has been extended about 4 fms. 3 feet; no lode or branch of importance has yet been met with. In the 30 fm. level, east of Gill shaft, a winze is being cleared below, for the purpose of letting down the water at Rundle shaft—also to ventilate the adit level, and admit of its again being cleared and secured. The 54 fm., or adit level, has been driven home and through a very fine cross-course, on the western side of which an improvement has taken place, from whence a rise is being put up for the purpose of ventilating this and the 40 fm. level above, and is now within 4 fms. of the latter, being already 8 fms.; the lode for the first 5 fms. rising is exceedingly promising, being 3 ft. wide, composed of capels, quartz, mundic, prian, and ore, and worth for the latter 10*l.* per fm.; from this point the lode is less productive, the rise having gone up on the north portion thereof, leaving, in all probability, the main and most productive part to the south—this is being done with a view of more speedy communication with the 40, the ground being more easy. The 40 fm. level has been driven 4 fms., and the cross-course has again been intersected, and cut into 4 ft., where it shows fine gossan, quartz, and flookan; the lode up to the point of intersecting the cross-course is 3 feet wide, and although poor, is very kindly, being composed of capels, mundic, peach, and prian, with a little ore; this drivage will be pushed through the cross-course as far as circumstances will admit, for the purpose of communicating with the rise, which will be effected in about three weeks from this date. The 30 fm. level, west of Gubbins' rise, has been extended 14 fathoms; the lode throughout this extent is unproductive—this level will now be driven in a northerly direction for intersection for a north or Ding Dong lode. I beg to say, looking at the cross-course in the western part of the mine, and the favourable change already taken place, little doubt remains of this becoming a paying property.

— At our setting, on Saturday last, the bargains were let at the following prices:—The 12 fm. level, to drive by two men and two boys, at 4*l.* 10s. per fm., stent 3 fms.; the cross-cut south, at Gill's, by one man and one boy, at 3*l.* 3s. per fm., stent 3 fms.; a winze to clear up below the 30, at Gill's, by four men, at 10s. per fm., stent to the back of adit; the rise above the 54, west of cross-course, at Rundle's, by four men, at 3*l.* per fm., stent to hole.; the 40 fm. level, west of cross-course, at Rundle's, towards the rise, by six men, at 3*l.* 3s. per fm., stent 3 fms.; a cross-cut north in the 30 fm. level, west of Gubbins' rise, to cut Ding Dong lode, by four men, at 4*l.* per fm., stent 2 fms. As you had my report of Friday last, of the prospects of the mine, &c., I have nothing new to report on, as but little has been done since.

WHEAL HAMLYN.—I see little or no alteration in the caunter lode since my last report. We hope soon to get into the east and west lode, which will, I have no doubt, enable me to give the adventurers a much better satisfaction, and to go on with a greater spirit than we hitherto have, which I have no question will shortly bring us to something essential.

WHEAL HARRIS.—We have discovered the lode in the 25 fm. level west of the cross-course; it is about 6 in. wide, composed principally of spar, with spots of lead in places; in the same level east the lode is much the same as last reported, but split in three branches, each of which is about 4 in. wide—spots or stones of lead occasionally.

WHEAL MARY ANN.—The water has been drained from Pollard's shaft since the 17th inst., and we have resumed driving the 70 fm. level. The lode in the 70 fm. level, north of the shaft, is 2½ ft. wide, and worth 8*l.* per fm.; in the same level south it is 2½ ft. wide, and worth 8*l.* per fm. The lode in the 60 fm. level, south of the shaft, is 1½ ft. wide, and worth 5*l.* per fm.; the sinking of the winze under this level south has been suspended on account of water. The lode in the 50 fm. level, south of the shaft, is 3 ft. wide, and worth 6*l.* per fm.; the lode in the winze sinking under this level is 2 feet wide, and worth 8*l.* per fm. There has not been anything done in the 40 fm. level south since last reported, the men being employed at the surface in making new dressing-floors. The lode in the 70 fm. level, south of Barratt's shaft, is 3½ ft. wide, and worth 10*l.* per fm. The stopes generally, throughout the mine, are usually productive. We sold yesterday a parcel of lead ores, computed 90 tons, to the executors of the late Joseph Thomas Treffry, Esq., at 20*l.* 13s. 6d. per ton.

WHEAL MARY EMMA.—Our engine-shaft has been commenced to sink on the course of the lode, below the deep adit level, immediately under the shaft communicating with the surface; the lode maintains its size and character, and continues to yield excellent work.

WHEAL ROBERT.—Since my last report we have sunk in Murchison's engine-shaft 2 fms. 1 ft. The water is very powerful, but by applying a hand-pump, we shall be able to sink until a whim can be erected; we set the shaft on Saturday last, at 9*l.* per fm. Our adit level we have driven 5 fms. 3 ft., at 5*l.* per fm., including wheeling and drawing the stuff; the lode is of much the same character, both in size and quality, with excellent stones of ore, and I have no doubt that when we get a little westward we shall be in possession of a good lode. Our wheel-pit is getting on rapidly, and we are raising from it a good lot of stones, sufficient to build it, and in about three weeks we shall be ready for the masons. We have cut upwards of 150 fms. of our new water-course, and we are bringing the water after us, to staunch the leat. In about three weeks it will be quite complete.

WHEAL RUSSELL.—We have not met with the lode in the cross-cut in the 48 fm. level; the ground at present is composed principally of killas, and branches of spar, approaching to capel. On Saturday last six men were put to drive east and west on the first lode discovered in the 48 fm. level cross-cut, and I am glad to say the lode is now much improved, yielding full 1 ton of ore per fm. The lode in the 37 fathom level driving west is also improved since my last, it being 6 ft. wide, yielding upwards of 1 ton of ore per fm. In driving the 37 fm. level south on the cross-course, a small branch has been met with, containing ore, but not of much importance. No lode has been yet found in the 16 fm. level cross-cut, but the ground is more favourable for driving. Within the last fortnight two men have been set to clear some old workings in the southern part of the sett, where there is a large lode, full 10 ft. wide, containing good stones of ore throughout. The pitches are looking well, yielding fair quantities of ore.

WHEAL SARAH.—I have to inform you that we have now cut the lode in Caldecott shaft, which is looking more promising than ever I saw in this mine before. I have broken some very good stones of lead from the lode, specimens of which I will forward on Friday next (Feb. 28); the lode is composed of lead, white sugar spar, and mundic. I cannot tell you the size of the lode as yet, but I hope to be able to inform you more about the lode in a few days, when we get deeper with the shaft, which is now about 6 fms. deep.

WHEAL VINCENT.—The lode in the west end in the 10 fm. level is 2 ft. 6 in. wide, good for tin, and leaving a good lode going down in the bottom. This long bunch of tin is still lengthening as we extend west; the ground is also much easier since last report; and we expect to hole to the new winze in about a week. In our engine-shaft there is not much alteration. I hope we shall get through this hard floor very soon. Our engine is keeping the water very well, and our stamps are at work.

FOREIGN MINES.

ALTEN MINING ASSOCIATION:—

Mine Report from the 6th to the 20th January.

Raipas.—In the stope west of Monk's shaft the ground is at present not looking so well as was stated in my report some time back; the lode, however, still continues to wear a promising aspect, and, from present appearances, we may expect at no distant time a change in this bargain for the better. In the winze below the 20 the ground is equally hard and unfavourable for sinking as when last reported. In No. 11 the lode is about 2 ft. big, and producing about 4 tons of ore per fm., but of a very dredgy character. In the eastern cross-cut the lode is very small, containing a little ore, but not sufficient to admit of its being saved. In the northern cross-cut the ground is speedy and favourable for driving; it also presents indications of our not being far distant from some new lode of ore. In the shallow adit workings the lode is at present about 4 ft. big, and producing about 4½ tons of ore per fm. On the whole, our present workings at Raipas are certainly wearing an aspect of rather a gloomy nature; and unless something new presents itself, which I have every reason to expect, our produce for the present month will hardly exceed 3 tons of copper. The reasons for our ill success may be attributed to the dark days and the severity of the weather, which prevent the ore being dressed, and, in consequence, we are at present compelled to carry the greater part of our ores to the picking mill, where it must remain until the return of summer.

United Mines.—Here we have no further change to note. We continue to explore Ward's lode to the eastward, and find it favourable for driving, but it still continues poor. The stope under the 40 fm. level continues productive, and the prospects are equally good. The tributers are making fair returns. At Woodfall's we are obliged to stop all our workings, in consequence of the dangerous nature of the ground, and the great accumulation of ice and water.

Old Mine.—The eastern pitches, above the adit level, have somewhat improved, but the quality of the ore is not quite so good. Slungi's sink continues to yield good and profitable returns: the prospects are not quite so favourable as formerly, but the ore is of a better quality. The sink to the north-east is equally productive, and the prospects of this lode lead us to form a sanguine opinion as to its capabilities. The new sink, between Slungi's and Davola's, is also improved, and the prospects are equally flattering. Next month we hope to employ 12 to 16 men in this sink, to explore the lode at a greater depth. The tributers above the Bergmester's are not making much progress, in consequence of the hard nature of the lode; but we hope hereafter to make better returns, as we are gradually widening this working, so that we shall shortly be able to employ eight instead of four men. The general prospects at this mine are at present looking very good. The adit is also making very favourable progress.

Michell's.—The tribute pitches at this mine are still poor, and the ground on Nellen's lode continues hard for excavating; and the prospects not being very promising, we shall, if no improvement takes place in the course of this month, be obliged to suspend these workings until the spring, when we may resume operations on the new lodes discovered last year. No alteration is to be noted in the adit level, where the ground is hard, but still is favourable for driving.

COPIAPO MINING ASSOCIATION:—Dated Dec. 24: Received Feb. 26.

Copper Mines.—Checo.—In the 30 fm. level the lode is large, and continues to give ore of superior quality. In the 20 fm. level we have a rich branch of ore, 18 in. wide. In the 12 fm. level the lode is very large, and is giving some rich ore. The stopes continue to yield well, and the improvement spoken of in my last, I am happy to say, continues gradually to develope itself.

San Pedro.—Here we continue to raise some good quality ore, but not so much as we could wish, having but two English miners employed, and no native miners, there being such call for them that we cannot possibly get any here. The lode is large, carrying with it a leader or branch, of 8 in. wide, of very rich ore.

La Compania.—In the 18 fm. level we have a large well-defined lode, composed of prian, quartz, iron, and beautiful deposits of black, grey, and yellow ore; this level is showing evident signs of becoming very productive, and more particularly so as we are just getting through the slide, which gave us a good lode in the level above. In the winze now being sunk in the 10 fm. level the lode continues to improve, and at present is giving some good quality ore. The stopes continue to yield well, and, probably, will do so for some considerable time, from the appearance of the lode in the shaft and upper level. In this mine I think you will agree with me in saying that we have everything that can be wished for—viz., a large well-defined lode, composed of rich copper ore, with every other ingredient congenial to the existence, healthy state, and growth of a lode of copper

ore of the richest quality. I not only refer to the nature and composition of the lode itself, but also the beautiful strata of ground surrounding it.

LA REYNA.—In the shaft, we have an immense bed, or deposit, of gossan; we have cut into it 9 ft., but hitherto have not found the wall; and in this great gossan lode we have rich deposits of from 40 to 50 per cent. ore. This lode, without exception, is the prettiest on the back I have ever seen, and in no case have I witnessed anything approaching to it, with the exception of the Great Devon Consols, on the banks of the Tamar, which mine is so celebrated in the mining world, and which I had the privilege of inspecting on its commencement. The chiffon, or winze, now being sunk, is giving rich ore precisely of the same class as the shaft.

SAN AUGUSTIN.—Since you were here on the 16th, the lode in the adit level west has improved in appearance; it is still as it then was, very wide, with a branch of ore on the north wall 18 in. wide. In the shaft the lode has nearly left us, having a slight inclination to the north, and the shaft being sunk in a perpendicular direction; however, the portion that is left continues to give rich stones of ore; we have, therefore, concentrated our force so as to get this shaft down to the 12 fm. level, so that we may cut through it and commence driving west under the ore ground. In the level above, we hope to complete the sinking about the middle of next month.

SAN CARLOS.—We continue to drive the upper and lower levels, in each of which we have a large well-defined lode; but, as I have before informed you, our object is to get into the hill, where we may fairly expect a good course of ore. This mineral is just now beginning to show itself, and I have no doubt but that it will ultimately give large and lasting bunches of rich ore, and, as I have already observed, time and perseverance are only wanted.

Produce for Nov.:—			
Checo			28
,,	,,	San Pedro	9
,,	,,	La Compania	15
,,	,,	La Reyna	8
,,	,,	San Augustin	10 -70 tons.

SILVER MINES—AL FIN HALBADA.—This mine continues to hold her position as a first-rate one. In the upper levels the lode is found 1 to 1½ ft. wide, giving average quality ore, and 1 t the pique or chiffon in the bottom the lode is 3 ft. wide, producing ore of first-rate quality, that of white silver interspersed throughout. We have also a large lode in the chiffon sinking in the north part of the mine, composed of "metal frio," and "rose cler.' This is not the lode that I have before called your attention to in the Salvadora Mine, but one parallel to it; therefore it appears that the whole of the lodes to the north, and we have several, will be of this character, and consequently give an enhanced value, not only to this mine, but the entire mineral.

SAN JOSE DEL CARMEN.—Our operations hitherto in this mine, for some time past, have been on a limite l scale, and, as a natual consequence, we have raised but little ore. I am, glad, however, now to find that we are to work with greater spirit, and hope, ere long, to have to report our having a good bunch ot ore.

MERCEDITAS.—In this mine I have great pleasure in saying that we have an improvement. Since the communication of the new shaft, we have been driving the 25 fm. level north, and just now it is beginning to give some nice "plomos," or horn silver, and we have great hopes that, before the end of another month, we shall have a good "alcance." In the 25 fm. level south the lode is 18 in. wide, giving a little ore of low ley. In each of the other labores we have no alteration.

CARMEN ALTO.—In driving the 16 fm. level we have a large, well-looking lode, with a channel of ground quite congenial for silver, and nothing is wanted but a cross-branch to cause it to become rich. In the upper chiffon the lode is 18 in. wide; this lode also gives a little silver when washed, and I may say the same of this, as in the level below nothing is wanting but an intersection to cause it to become productive.

SANTA ANA.—We continue to drive both north and south in the bottom of the mine, and in both labores we have a lode well-defined, from 8 to 10 in. wide, giving occasional stones of ore; we hope in the present month to raise several cargas of ore.

COLORADO.—In the chiffon in the bottom of this mine the lode is 2 ft. wide, composed of quartz, prian, and clay, giving now and then a stone of ore; our object here is to get down. In each of the levels, both north and south, we have a large lode, of a kindly appearance. In the labore to the north the lode during the present month is much improved: it is now 2 ft. wide, quite metallic.

DESCUBRIDORA DE ORO.—Our operations here are rather confined, having but three barrateros, or pickmen employed. We continue to take out a little gold and copper ore. The gold ore, however, is of a low ley, some of which we hope to get returned shortly. The copper ore is of a superior quality, 5 tons of which we hope to send per next troop to Flamenco.

I cannot close this report without making a remark or two on the company's mining property; and, in the first place, allow me to call your attention to the copper mines. Checo has scarcely during the year looked so well as at the present moment. La Compania has gradually gone on improving, and now bids fair to stand high in the mineral; and I may say precisely the same of La Reyna, for I do not think such a lode as this can possibly fail of giving great returns. Then there are the mines at Flamenco, which are opening themselves, although slowly, yet very satisfactorily, and I believe that this also will make a great mineral; in fact, I have already seen from the neighbourhood stones rich for copper, and also thickly interspersed with silver.

As to the silver mines at Tres Puntas, I scarcely need say one word, for, by a reference to my monthly reports throughout the year, it will be seen there has been a gradual improvement. I would also remark, that the opening of the port of Flamenco is of immense importance to this place, with the making of the new road from the port to the mines, and which I hope to see completed some time in February. The making of this road has taken away, for a few months, some of our English miners for sinking wells, &c.; when this is completed, each man will again return to his work, and the company be in possession of a valuable property; for I need scarcely tell you, that a well of water here is of considerable value: we have in the port a splendid one, close by our landing and shipping establishment; another at the mines of San Agustin, and at this time we are sinking about 8 leagues on the road from Tres Puntas, and are daily expecting to get water. When this is finished, I hope to begin with one near the mineral, where I think there can be but little doubt of our getting a sufficient supply of water for the troop. Now, looking at this collectively, I think you will agree with me in saying, that the propery of the company is of immense value.

LINARES MINES.

The following has been received from Mr. H. Thomas:

Linares, Feb. 15.—Wilson's shaft, sinking under the 45 fm. level, is now down 7 fms., and contains a valuable lode, producing about 7 tons of lead ore per fm. The end driving west from San Anton winze, in the 55 fm. level, is not so good as it has been; but, as I said in my last report, we do not consider that we are on the same lode as Wilson's shaft is sunk on, the north lode having always preserved more regularity of character and produce than the south, which latter is more subject to occasional rich bunches than regularity of produce. The same may be said of the 55 fm. level, driving east of San Anton winze; in this end the progress during the month has been but small, the men having pushed the work more in the western end, in order to hole to Wilson's shaft as quickly as possible. The lode in the 45 fm. level, driving east of Shaw's shaft, is worth rather more than ¼ ton per fm., and the character of the lode is still improving. In the bottom of the 31 fm. level, a little in advance of the present end of the 45 fm. level, and where we have met with old workings, we have found, in a piece of ground not wrought by the old men, the lode to be worth from 4 to 5 tons per fm. As I do not expect that much ground can have been taken away under the 31, I am looking with much interest to the extension of the 45 fm. level under these old workings. The engine-shaft and cross-cut are proceeding satisfactorily, and the appearance of the tribute pitches continues favourable.

Ore in stock at Linares, February 8, 295 tons; weighed in, Feb. 15, 35 tons 6 cwts.= 330 tons 6 cwts.—sent for shipment, 19 tons: remaining at Linares, 311 tons 6 cwts.; at Bayles, 1 ton 13 cwts.; at Seville, 202 tons 13 cwts.; at Malaga, 59 tons; on board ship, 43 tons 8 cwts.: total, 618 tons.

ROYAL SANTIAGO MINES.

Dated Jan. 13, received Feb. 26:—

Perseverancia.—Thompson's shaft has been sunk 2 fms. below the 22 fm. level, the lode at present is small and poor; we have suspended sinking this shaft for a few days, and put the force to cut trip-plat, which will be completed in a few days, when we shall commence to sink this shaft again. The 22 fm. level west has been driven 9 fms. 5 ft., and the lode is from 11 to 12 ft. wide, producing from 11 to 12 tons of copper per fm.; in the winze sinking below this level part of the lode is producing from 11 to 12 tons of copper per fm. In the 22 fm. level, east from Thompson's shaft, the lode is from 2 to 3 ft. wide, yielding from 4 to 5 tons of copper per fm. We have nearly completed cutting winze-plat behind this end, and we shall commence sinking winze below this level in the course of a few days; in the stopes in the back of this level the lode is from 2 to 3 ft. wide, producing from 3 to 4 tons of copper per fathom. The 10 fm. level, east of Thompson's shaft, has been communicated to St. David level: in the winze sinking below this level the lode is from 2 to 3 ft. wide, yielding from 1 to 2 tons of copper per fm. In the winze sinking below the adit level, east of Thompson's shaft, the lode is from 2 to 3 ft. wide producing from 1 to 2 tons of copper per fm.

San Joaquin.—Taylor's shaft has been sunk 5 fms. 3 ft. 6 in. below the adit level; we have still a great deal of water, which impedes our sinking.

Angelita.—In the cross-cut driving south we have intersected the north part of the lode; as yet, we cannot ascertain its value, as we have not seen the south wall. Our raisings for the past month are about 120 tons.

WHEAL MAY MINING COMPANY.

A meeting of shareholders was held at the Hall of Commerce, on Thursday, the 27th Feb. Mr. REYNOLDS in the chair.

The SECRETARY (Mr. Peet) read the circular convening the meeting. After the minutes had been read and confirmed, Mr. SNELL proposed that a call of 5s. per share should be made, payable as usual, to meet the current expenses of the company.—Mr. TORRINGTON seconded the motion, which was carried.

In answer to an inquiry, the SECRETARY said, there were 1024 new shares registered, 217 old certificates had been paid as calls by parties who have conformed to the resolution, admitting seven certificates to represent two paid-up shares; these 217 would realise at par 108*l.* 10s., the calls due on them 43*l.* 10s.; the 217 certificates would be equal to 87 new. As they had now 972 shares in to complete the 1024, there were but 52 now wanting, or 130 old certificates.

After a desultory conversation, a vote of thanks was given to the chairman, and the meeting separated.

PENTIRE GLAZE, PENTIRE UNITED, AND SOUTH HILL MINES.

A meeting of shareholders was held yesterday (Friday), at the George and Vulture Tavern, Cornhill.—The Rev. G. R. HARDING in the chair.

Mr. B. RANKIN (the honorary purser) read the minutes of the last meeting, which were confirmed.

The CHAIRMAN stated that, in consequence of the correspondence which had appeared in the *Mining Journal*, he had thought, holding so large a stake as he did in the mine, that he should go down and see for himself. He had obtained the assistance of Capt. Jehu Hitchens, of Tavistock, who had inspected the mine. Capt. Bishop had left the property, and in his place Capt. Kneebone had been appointed *pro tem.*

A lengthened and satisfactory report from Capt. Hitchens was then read, which stated that the usual appearances observable in most productive mines presented themselves. The rock was in clay-slate; and, by a due prosecution of the workings in depth, abundant returns of metal could be derived therefrom. The machinery, steam-engine, cylinder, together with the dressing-floors, crusher, stamps, &c., were in good condition, and must have been supplied at a heavy outlay. The development underground fully confirmed the appearances found at surface. On the whole, the lodes in the Pentire Glaze and Pentire United Mine, fully warranted a sufficient outlay of capital to develope them. It was proposed that the 22 fm. level should be driven by six men, the 10 fm. level south by two to sink the Boundary shaft to 22 fms. by six, to stope the ground four, and other exploring work two—in all about 20 men. The cost of these, with their materials, powder, candles, safety-fuse, wheeling, &c., would be about 80*l.* per month. The further cost of captains, carpenters, smiths and three engineers engineman, pitmen, captain and account-house, grease, hemp, tallow, leather, rope, timber, sawing, stamps postage, &c., would amount to about 70*l.*—making a total on the month of 150*l.* This will be reduced to the extent of any ores to be raised in carrying out the workings, and, consequently, lower the amount to be advanced. The South Hill Lead Mine being full of water, in consequence of the main bob-pit falling, it was impossible to go underground; but as this is being repaired, and when completed, and the water drawn out, which is effected by rods at surface from the Pentire Glaze Mine, a report will be given.

A report from Capt. Kneebone, of the 24th of February, was read, stating that the mine was progressing, and another, received yesterday, which will be found inserted under our Mining Correspondence.

It was then proposed that Capt. Bishop's resignation should be accepted, and that Capt. Kneebone be appointed in his place; this was unanimously carried.

Mr. HARDING proposed, and Mr. RICHARDS seconded, that Capt. Jehu Hitchens should be appointed to superintend and manage the mine, to consult with the agent, and undertake the supervision of the company's affairs.—It was stated by the PURSER that lead ore, to the amount of 317*l.* 19s. 6d., had been realised.

On the motion of a SHARREOLDER, the London and Commercial Bank were appointed bankers of the company.

A call of 5s. a share on 2048 shares (the number in the mine) was made, payable to the company's bankers on or before the 14th inst.

Mr. SNELL moved that Messrs. Waller and Cobb be appointed auditors.—This was seconded by Mr. RICHARDS.

Messrs. Pargetter, Harding, and Drewett, were re-elected on the finance committee.

Mr. WALLER said, the meeting ought not to separate without returning a vote of thanks to the chairman—not only for his able conduct in the chair that day, but likewise the energy and good service he had shown in going to Cornwall, from which cause they might ascribe their present favourable position.

Mr. RICHARDS highly concurred in all that had fallen from the last speaker, and begged to second the motion, which was carried unanimously.

The CHAIRMAN, in returning thanks, stated that he felt himself repaid by the satisfaction with which his exertions were regarded by the shareholders.—After a desultory conversation, the meeting separated.

MINING IN CARDIGANSHIRE.

SIR,—I beg to hand you the following brief report of some of the Cardiganshire mines, from personal inspection:—

BWLCH CONSOLS.—The costs, merchants' bills, and royalty for January are somewhat less than 400*l.*, and the returns are about 600*l.* There are good courses of ore in the 35, 45, and 55 fm. levels west.

BRONFLOYD.—There is a rich course of silver-lead ore discovered by taking down the north side of the adit level; there is also a good course of ore with the tributers in the back of the upper adit. The crushing and dressing machinery is preparing as fast as possible, and when ready, this mine will be in a state for returning profits.

PENRHEW.—The lode yields good ore in the 26 and 36 fms. level, and about 80*l.* worth has been broken, at a cost of 40*l.*, during the last month. The ore in the 36 is 10 in. wide, and very solid.

GROGWINION.—In sinking under Bonsall's adit, the lode yields from 10*l.* to 12*l.* worth of ore per fm.

CAE-GYNON.—The new discovery, although it is sunk upon only a few feet, yields very good ore. The adit level west, on the north lode, is in silver-lead ore, worth from 16*l.* to 22*l.* per fm.

RHEW-RHIGUS.—The adit level is clearing westward, to come under some very favourable ground before it.

DAREN.—Francis' adit and stopes are in a rich course of copper.

CWM DAREN.—Oliver's adit, under Francis' adit, is in a lode containing a mixture of copper ore.

I hear that Allt-y-Crib and the Welsh Potosi are both rich mines.

Goginan, Feb. 27. MATTHEW FRANCIS.

A GLANCE AT THE PRESENT GLOOMY STATE AND PROSPECT OF THE GWENNAP MINES.

It is an unpleasing task that I impose on myself. The title indicates a gloomy picture; the prospect confirms it in all respects.

In your Journal of the 11th Jan., Mr. Cuel points out the shining object of mine dividends, with the best intention, I admit; but, as all must allow, in the lottery of mining there are blanks as well as prizes, my object is, by facts, to explain (if possible) that, although a mine may pay a dividend or so in 1850, it is not quite certain it will in the year following, when it may be consigned "to the tomb of all the Capulets." Another reason for my being thus blunt, or John Bullified, is that I set my face against all mine brokers advertising puffs of this or that bal. "paying *regular dividends* of 15 to 40 per cent. per annum," which is all moonshine. Well then, to my task. Among the list of 1850, dividend-paying mines, I select those from the parish of Gwennap only, and you will join me in stating that in days "lang syne" that parish was held to be the very tip top. In 1850, we find in Mr. Cuell's list (Gwennap) the undermentioned as the only mines paying dividends—viz.:

Shares.	Paid.	Mines.	Price.	Div.	Amt.	Copper.	£	s.	d.	Dues.
128	£65	Comfort	£100	£6	£768	2243	4696	12	0	1-18
96	1000	Gt. Consols	250	10	960	7592	40159	16	0	1-24
200	300	United	140	5	1000	9909	43197	10	0	1-24
120	130	Treviskey	275	73	8760	2884	20628	10	6	1-12

Now, "look upon this picture and upon that." The market value only a few weeks ago, and now:—

Comfort	128 shares, at	£100	£12,800, now	£65	£8320
Consols	96 ,,	250	24,000, valued		24,000
United	200 ,,	140	28,000 ,,		20,000
Treviskey	120 ,,	275	33,000, now	£246	29,520
			£97,800		£81,840

To explain, then, Comfort sold from June 30, 1849, to June 30, 1850, £6609 6 6
Half-a-year, from June 30, 1850, to Dec. 31, ,, 2094 0 0 only.

Since which, she has sold no copper ore, but has for sale to-morrow 301 tons, the first for 1851. The underground reports are *not* published, but the levels are publicly stated to be poor, and dividends "devoutly to be wished," but not expected.

Next upon the list is "Great Consols." more than once the pride of Gwennap, now, alas, very poor indeed: and her rib on the southern side, "United Mines," still worse. At the latter, with three large steam-engines, each of 85 in. cylinder, one of 90 in., and one of 30, such is the influx of water that they cannot keep it, and have at this moment upwards of 30 fms. water in the bottom levels; and, therefore, having sustained a considerable loss for the last quarter, very few tutwork bargains are at present working.

United sold from July 1, 1849, to June 30, 1850,	11,940 tons	£43,832	16 6
For one quarter, July 1, 1850, to Sept. 30, 1850,	1,955 ,,	7,250	19 6
For one quarter, Oct. 1, 1850, to Dec. 31, 1850,	2,073 ,,	9,247	16 6

To-morrow they sell 742 tons of copper ore; the sale on the 28th Feb., 1850, being 1509 tons, realising 7236*l.* 11s. This unfolds a tale; they have, in addition to these five engines, five steam-whims, two of 20 in., and three of 24; the materials altogether might realise about 20,000*l.*—say, 100*l.* per share—if speedily disposed of. The doing which adds to the already overburthen that "Great Consols" has to bear, for the water would flow over and drown her lower levels. The sales from thence—

From June 30, 1849, to June 30, 1850, were	7896 tons	£43,010	6 0
One quarter, July 1, 1850, to Sept. 30, 1850,	2577 ,,	14,213	7 0
One quarter, Oct. 1, 1850, to Dec. 31, 1850,	1186 ,,	5,765	9 6
Since then, Jan. 2, 428 tons, for		£2113	5 6
Jan. 30, 571 tons, for		2598	3 6
Tons	999	£4711	9 0
For sale, March 6	441		

This, added to the losses sustained during the last quarter, is gloomy enough in all conscience, but, with the cold water purge likely to vomit forth from United, is sure to prove a sickner. They have 18 steam-engines, the larger ones drawing water, the smaller stuff, and occasionally used as crushers, &c. The stock, &c., speedily disposed of, might realise 24,000*l.*, which would be about the quoted market value of shares, at 250*l.* per 96th share. Allowing this unfortunate event to take place, away goes the whole run, Poldice, Wheal Unity, and Wheal Clifford, on which are six more steam-engines and whims—in all thus particularized 34 steam-machines put idle and for sale; calculating only three men to each, there will be 102 enginemen out of employment, and at least 5000 labourers men, women, and children. This is not all; nearly as many families will suffer. These engines consume about 2000 tons of coal a month, and an immense weight and value in timber, iron, powder, &c., that has to be conveyed by horse labour to the mine, independent of the return carriage of ore. The carriers will feel the loss of such extensive employ most painfully.

The engines and stock at Poldice and Clifford may, disposed of as before hinted, realise 11,000*l.* The whole run, therefore, might fetch 55,000*l.*, which ought to be "one and all" united into one great concern, under the most judicious and economical management, with "a long pull, strong pull, and a pull altogether," to master the water, and work effectually. To do this, the capital should be 120,000*l.*, paying the present holders the valuation in cash, or shares, 55,000*l.*, would leave 65,000*l.* as a working fund. The present dues being chiefly 1-24th, the lords ought to decline them altogether, until dividends are declared, and if not, consent to take 1-30th. These are ideas hastily put together, from no interested motive on the part of the writer; who begs to conclude by wishing sincerely that Treviskey may pay as much in 1851 for dividends as in the last year, though from present appearance that is out of the question. The adventurers therein have his good wishes, nevertheless; and he will hail with joy that the gloom now pervading over Gwennap Mines, is only transitory, and be happy to once more see her in all her ancient glory.—ARGUS: *Truro, Feb.* 26.

GREAT COWARCH SILVER-LEAD MINING COMPANY.—This mining property is situate in the lordship of Mowddy, near Dinas Mowddy, in Merionethshire, and from a report by Captain Hoskins, exhibits extraordinary capabilities in mineral riches. The principal lode, called Bob's lode, has been driven on, and cut five other lodes, all of a promising character. The sett is one mile from east to west on the course of the main lode, and three-quarters of a mile in width. Very little ore has been extracted from the mines in comparison with the ground opened on, and pitches can be set upon the one in sight to a considerable extent. It is proposed to divide the mine into 12,000 shares, of 2*l.* each, making an ample working capital for all contingencies; and as the mine will be, in all probability, in immediate returns, the funds will be appropriated solely to dividends. The following are some analyses made on specimens of the ore by Dr. Normandy, the translator of *Rose's Treatise of Chemical Analyses.*—1st. 14 cwts. of lead to the ton of ore, and 30½ ozs. of silver to the ton of lead.—2d. 15 cwts. of lead, and 68 ozs. of silver.—3d. 17¼ cwts. of lead, and 16 1-5th ozs. of silver.—4th. 13½ cwts. of lead, and 3½ ozs. of silver.—5th. 17 cwts. of lead, and 17¼ ozs. of silver.—6th. 16¾ cwts. of lead, and 82 ozs. of silver to the ton of lead. It is stated the water-power on the property is sufficient for all purposes of the mine, avoiding the expense of steam-engines, and there is a good road to the port of shipment. For all the works, machinery, and 200 tons of ore at surface, the present lessee requires 3000*l.*, and 3000 shares, equal to 9000*l.*, leaving 15,000*l.* as working capital. Mr. Adam Murray has been appointed the manager of the mines.

LATEST CURRENT PRICES OF METALS.

LONDON, FEBRUARY 28, 1851.

ENGLISH IRON. *a*	per ton.
Bar, bolt, & square, London	£5 7 6–5 10
Nail rods	6 0–6 5
Hoops	7 0–7 5
Sheets (singles)	7 12 6–7 17 6
Bars, at Cardiff & Newport	4 17 6–5 0
Refined metal, Wales*	3 5 0–3 15
Do. anthracite*	3 10 0
Pigs in Wales	3 0 0
Do. do. forge	2 5 0–2 10
Do., No. 1, Clyde ... *net cash*	2 3 0–2 3 6
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 10 0
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0
Stirling's Patent in Glasgow	2 15 0
Toughened Pigs in Wales	3 10–3 15
Staffordshire bars, at the works	5 7 6
Rails	5 0 0–5 5
Chairs (Clyde)	4 0 0
FOREIGN IRON. *b*	
Swedish	11 15–12 0
CCND	17 10 0
PSI	——
Gourieff	——
Archangel	——
FOREIGN STEEL. *c*	
Swedish keg	15 10 0
Ditto faggot	15 0 0
ENGLISH COPPER. *d*	
Sheets, sheathing, & bolts, *p. lb.*	0 0 9½
Tough cake	*per ton* 84 0 0

Tile	£83 0 0
Old copper *e*	*per lb.* 8½d
Yellow Metal Sheathing	7½d
FOREIGN COPPER. *f*	
South American, in bond	77 0–87 0
ENGLISH LEAD. *g*	
Pig	*per ton* 17 10 0
Sheet	18 10 0
Pipe	19 0 0
Red lead	19 0 0
White ditto	24 0 0
Patent shot	20 10 0
FOREIGN LEAD. *h*	
Spanish, in bond	17 10 0
ENGLISH TIN. *i*	
Block	*per cwt.* 4 8 0
Bar	4 9 0
Refined	4 14 0
FOREIGN TIN *k*	
Banca, H. C.	4 8 0
Ditto, for Export only	——
Straits	4 7 0
TIN-PLATES. *l*	
IC Coke	*per box* 1 8–1 8 6
IC Charcoal	1 12 6–1 13 6
IX ditto	1 18 0
SPELTER. *m*	
Plates, warehoused	*per ton* 16 5 0
Ditto, to arrive	16 0–16 5
ZINC. *n*	
English sheet	*per ton* 20 0–21 0
QUICKSILVER *o*	*per lb.* 3s. 9d.

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis.; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.
* Cold-blast, free on board in Wales.

WELCH BAR IRON continues without alteration; the principal makers are firm at 4*l.* 17s. 6d., some second-hand parcels, favourite brands, have been sold at 4*l.* 15s., inferior at 4*l.* 12s. 6d., free on board in Wales; there are several large orders in the market for rails at low limits.

SCOTCH PIGS may be quoted 6d. per ton in favour of the buyer.

SWEDISH IRON is more in request.

SWEDISH STEEL.—Some parcels for spring shipment may be had at 15*l.* 2s. 6d.

COPPER remains the same as last week.

BRITISH TIN continues easy at present prices. [the week.

FOREIGN TIN.—About 1000 slabs have been cleared for home consumption during

SPELTER.—50 tons on the spot have changed hands, equal to 16*l.* 2s. 6d.

LEAD is in good demand for shipment.

TIN PLATES.—A large business doing.

GLASGOW, FEB. 27.—The pig-iron market has been very quiet during the past week, and the resignation of the Ministry has added to the previous dullness. Most persons are now convinced that the production for the last two years has been far too great; and the pig-iron masters would do well to look more closely into the matter ere too late. Considerable quantities of Gartsherrie have been pressing on the market, and prices, especially of this brand, have given way. The following are the quotations:—Mixed Nos., good brands, cash against shipment, 42s. to 42s. 6d. per ton; cash against warrants, free on board here, 43s. per ton.

NEW YORK, FEB. 11.—The copper market continues firm at previous quotations.—Scotch pig-iron moved to the extent of 100 tons, at $21 50c., six months to arrive; English bars were held at $41, with buyers at $40, usual credit.—50 tons of English lead were sold during the past week at $85 per 100 lbs., and 50 tons of Spanish at $4 75c. Sales of Spanish, to arrive, were made at $4 80c. Sales of Galena have been made below $5 on time.—A sale of Banca tin (Government) was made at 21c.

SOUTH STAFFORDSHIRE COAL AND IRON TRADE.—The coal trade continues much as reported last week, with the exception of a slight decrease in the demand for best coal from the country trade, and this will slowly continue to increase as the dawn of spring approaches. The demand for iron of every description, except rails, continues exceedingly great, and most of the makers refuse to take more orders on their books, unless it be a little odd lot or so, for the accomodation of regular customers of importance. The iron-stone market continues as reported last week, and but little doing in the shape of new bargains. The tin-plate trade presents no new feature since our last, as the demand continues more than equal to the supply; and we think we may say that this trade continues to grow in importance more rapidly than any other of this district.—*Wolverhampton Herald.*

CURRENT PRICE OF GOLD AND SILVER.

Portugal gold, in coin	*per oz.* £3 17 5	Mexican dollars	*per oz.* £0 4 11½
Foreign, in bars	3 17 9	Spanish doubloons	3 16 6

Accounts from Chili state that trade at Valparaiso the commencement of the new year was rather slack. A cargo of coals had been sold at Herradura, at the rate of 9*l.* 6s. 4d. per ton, a few hundred tons had realised afloat 9*l.* 2s. Gold dust to the value of half a million of dollars had fetched from $15 16 reals to $13 8 reals the Castellano ave. ley. Bar silver, 8*l.* 14s. the mark. Hard dollars, 7 to 7½ per cent. premium. Saltpetre, 3s. 3d. Quicksilver, 23*l.* 17s. to 26*l.* Copper in bars, 3*l.* 5s. Ores on board, 10s. 10d., and 25 per cent. The imports of the precious metals in Chili were in 1848—Gold and silver bullion, 6702*l.* 0s. 4d.; silver partially worked, 744*l.* 6s.; coined gold and silver, 130,035*l.* 12s. 5d. = 137,471*l.* 18s. 9d. In the year 1849, there was imported—Gold and silver bullion, 17,590*l.* 19s.; silver partially worked, 1511*l.* 13s. 8d.; coined gold and silver, 223,518*l.* 6s. 4d.=242,620*l.* 19s.—being a difference in precious metals in favour of 1849 of 105,149*l.* 0s. 3d. The imports of general merchandise in that period were respectively 1,710,134*l.* 4s., and 2,080,527*l.* The exports during the year 1848 were—Metals in bars, regulus, and ores, 1,100,733*l.* 19s.; coined silver and gold, 105,961*l.* 4s.; native produce and manufactures, 329,519*l.* 4s.; foreign merchandise, 241,410*l.* 12s. 8d.—making a total of 1,787,624*l.* 19s. 8d. In 1849—Metals in bars, regulus, and ores, 1,359,379*l.* 4s. 8d.; coined silver and gold, 65,087*l.* 6s.; native produce and manufactures, 612,026*l.* 0s. 2d.; foreign merchandise, 254,999*l.* 12s.—making a total of 2,291,492*l.* 2s. 10d.: showing an excess over the preceding year of 503,867*l.* 3s. 2d. This surplus has been supposed to arise from the increased traffic to California. The returns to the end of Sept., 1850, were—Imports, 1,784,210*l.* 16s.; exports, 1,776,749*l.* 15s.; and there was every anticipation they would still further increase in the present year. In consequence of the dangerous position of the port of Copiapo, the Intendente of Atacama had represented to the Government the necessity of allowing the embarkation of silver for export to Europe from the port of Caldera, which has accordingly been allowed by the Treasury, under the superintendence of the Administrador of Customs.

Mr. Sheriff Hodgkinson, chairman of the Worthing Mining Company, and interested in many other mines, is a candidate for the aldermanic gown of Cornhill, vacant by the lamented death of Sir John Pirie.

THE GREAT EXHIBITION.—A letter from St. Petersburg announces that the Emperor of Russia intends to spend 10,000,000 silver roubles in making purchases at the Great Exhibition. His agents are specially commissioned to purchase every model which may be useful to Russian manufactures.

THE LONDON AND NORTH-WESTERN, AND GREAT WESTERN RAILWAYS.—Great apprehensions are entertained by the shareholders, lest these two leviathan companies should enter into an expensive competition, injurious to the interests of both, in consequence of the former making an arrangement with the Oxford, Worcester, and Wolverhampton, and the latter an arrangement with the Shrewsbury and Birmingham. It would, on every account, be desirable if such a state of things could be avoided.

TIMBER PRESERVING COMPANY.—The Timber Preserving Company held their annual meeting, yesterday, at their offices, in King William-street, at which it was announced that they are now empowered to make use of any of the known processes for the preservation of timber against dry or wet rot, &c.

MINING IN SPAIN.—At Calcena, in Arragon, a lode of grey copper has been discovered in the Vale de la Plata. The shares are already at the price of about 96*l.* From the Hiendelaencina more than 1500 lbs. of silver have been obtained in the month of January above that of December. At Ateca, a new smelting-house is in course of erection, in order to reduce the mineral of the province.

Some excitement has been created in the neighbourhood of Callington—a discovery having been made of a lode on Heigniston Down, 6 ft. wide. The leader, of rich black and yellow ore, is about 10 in. wide, within 6 ft. of the surface, and by assay produced 24½. The mine has been named Wheal Tonkin.

EAST SHARP TOR.—The 10-inch plunger-lift is completed, and works remarkably well, and the sinking commenced diagonally; the ground, I am glad to say, is tolerably easy of progress. I have set the men as much as they can do until our next pay-day (15th March), at 18*l.* per fm. As we have now the plunger fixed, and the water very much reduced, I hope we shall be able to sink from 2 to 3 fms. per month.

MARAZION.—We are glad to say that the gloom which during the last three years, in consequence of the very great depression in mining operations, reigned over this neighbourhood, is in a great measure passing away, and the inhabitants of this town and neighbourhood are looking forward to an increase of labour. In addition to the several mines which have commenced operations, and which are progressing rapidly, on Friday last the preliminaries of setting Wheal Jewel to work, situate between this town and Goldsithney, were entered into This mine has been idle for about 53 years. It is expected that in consequence of this mine going to work, Wheal Caroline adjoining Wheal Jewel to the south-east, will also move.—*Cornish Telegraph.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 8 per Cent., —	Exchequ. Bills, Small, 1¼d., 49s pm.
3 per Cent. Reduced Ann., 97 6⅞	Brazilian, 5 per Cent., 93¾
3 per Cent. Consols Ann., 96⅛ ⅛ ⅛	Mexican 5 per Cent., ex Jan. Coup., 33⅞
Consols for Account, 96⅛ ⅜	Ditto 5 per Cent., Acct., Mar, 14, 33⅞
New 3½ per Cent. Ann., 98⅛ ⅜ ⅛ ⅛	Portuguese, 4 per Cent., —
Long Annuities, 7⅜	Russian, 4½ per Cent., —
India Bonds (£1000), 54 5	Spanish, 5 per Cent., Acct., 19⅝ 20
Ditto (under £1000), 50 5	Belgian, 5 per Cent., —
Exchequ. Bills, 500*l.*, 1¼d. 46s 49s 50s pm.	Dutch, 2½ per Cent., 58⅝ ⅜ ⅝

MINES.—Fluctuations have occurred again this week in the value of dividend mine shares, which, with few exceptions, have been chiefly upwards. Our dividend list now marks a mine, upon which 10*l.* is paid, at 900*l.* per share. On the whole, the tone of the market for this class is improved, the late reduction in prices having brought forward buyers. In the progressive mines also a fair business continues to be done; and speculative ones, either old mines resumed, or new ground offered for exploration, continue to appear rather freely, an entirely new feature in the constitution of which is to raise a large capital by an immediate payment, instead of requiring it as wanted; but it remains to be proved by time and experience if the new mode of action is not an innovation quite unwarranted by the nature of mining operations.

In the Metal Market, Copper is without alteration.—Lead is in good demand, at full rates.—British Tin is quiet, but firm. In Foreign Tin, notwithstanding the more favourable accounts from Holland and the news from Java, that the quantity coming forward next year will be about 40,000 slabs less than was anticipated, the market has been very quiet. Tin Plates are rather easier, but the demand continues large.—In Spelter there is a good trade, at full prices.

An extraordinary specimen of copper ore, weighing 32 cwts., from the West Caradon Mine, near Liskeard, was shipped on Wednesday, at Devonport, on board the *Royal William* steamer, for exhibition at the Crystal Palace. The ore was raised from a depth of 75 fms., and is considered the finest specimen of copper ore raised in the county.

The Roughtengill Mine (Cumberland) have delivered to the smelt-works—January produce, 60 tons; and for February, 67 tons 13 cwts. of lead ore. Also, sold from the mine, 8 tons 2 cwts. copper ore, at 14*l.* 10s. per ton.

Wheal Mary Ann sold 90 tons of lead ore, at 20*l.* 13s. 6d. per ton.

A parcel of South Friendship Wheal Anne black tin sold at 50*l.* per ton.

From Polberro Mines, we learn that the two months' produce is 47½ tons of tin: the weather being more open, the tributers are working better, and a larger produce is expected.

The sampling at Cwmystwith Mine is expected to be about 60 tons of lead ore for the month. The lodes in Taylor's level east, and also in Kingside adit level, are looking kindly. The 30 fm. level is not so good: the stopes in the 36 fm. level pretty good.

The Tywarnhayle and Nancekuke Mines sampled 380 tons of ore, with a good reseave for next sampling.

At Callington, the different levels continue productive; 45 tons of silver-lead ores were sold on Wednesday, at 17*l.* 10s. 6d. per ton.

The fact of a considerable quantity of tin having been met with in the lode at East Wheal Russell has given great encouragement, and tends much to confirm the sanguine opinions entertained. It is stated that almost all the great copper lodes have made tin on the backs.

The late improvements at Wheal Crebor, and the very favourable reports read at the meeting, have caused a considerable demand for the shares at advanced prices.

Mr. Adam Murray, who has been appointed inspector of Hennock Mine, has furnished a report in which he states his opinion to be, that from the appearances developed in the back of the adit level, and also the 10 fm. level, with other circumstances in connection with the district, particularly that the two rich lead mines, Wheal Adams and Exmouth, had not such good indications as Hennock until they reached the 50 or 60 fm. level; this mine will prove productive in depth. The machinery was in excellent order.

At Lamberooe Wheal Maria a shaft has been commenced sinking on the champion lode, east of the cross-course, by two men, who have raised 60 kibbles of fair tinwork in the last fortnight, the lode being 6 feet wide. The other parts of the workings are as last reported. On the B lode 2 fms. remain to be sunk before commencing driving in the 10 fm. level, where it is intended again to prove this lode.

At Birch Tor and Vitifer, the discovery in the 20 fm. level, west of the old engine-shaft, continues good. The lode is worth more than 30*l.* per fm.

The monthly report from the Tyn-y-Worglod Slate Quarry states the works to be progressing most satisfactorily; excellent slates are being made even from the surface work. The month's produce had been 22,500 slates, of various sizes.

Herodsfoot is now returning 100*l.* per month profit, and in April a dividend of 10s. or 15s. per share may be anticipated.

The following are the dividends paid during the month:—

Mines.	*Dividend.*	*Amount.*	*Mines.*	*Dividend.*	*Amount.*
South Basset	£10	£2560	Wheal Friendship	6	£756
Mary Ann	3	1536	West Caradon	2½	640
North Basset	¼	1500	South Tolgus	2½	640
Wheal Trelawny	2½	1300	Balleswidden	⅜	609
Wheal Reeth	10	1200	Lewis	⅛	500
Wheal Seton	5	990	St. Ives Consols	4	500
Levant	5	800	Providence Mines	⅜	420

The Wicklow Copper Mine has also declared a half-yearly dividend, at the rate of 20 per cent. per annum.

At St. Ives Consols meeting, a dividend of 4*l.* per share (376*l.*) was declared, leaving a balance in hand of 107*l.* 4s. 5d.

At Balleswidden, on Tuesday, the accounts presented showed—Tin sold, 4142*l.* 17s. 6d.; sundries, 55*l.* 6s. 11d. = 4198*l.* 4s. 5d.—To wages for Nov. and Dec., 2395*l.* 18s. 8d.; coals, 181*l.* 9s. 4d.; carriage, 81*l.* 3s.; merchants' bills and dues, 905*l.* 11s.—By dividend of 7s. 6d. per 1624th share, 609*l.*: leaving balance in favour of adventurers, 25*l.* 2s. 5d.

At a meeting of adventurers in the Perran St. George United Mines, at Newport, Isle of Wight, on Wednesday, the accounts for September and October were passed, showing balance of 1115*l.* 18s. 4d. in favour of the mine, which was carried to next account; and a general meeting was agreed to be held on the 19th of March, to examine the accounts for Nov. and Dec., and to declare a dividend. The ores sold in Jan. (raised in Nov. and Dec.) realised 2869*l.* 19s.—[The report is given amongst our Mining Correspondence.]

At a special meeting of adventurers in the United Mines, on Tuesday, Mr. Grylls and Capt. John Richards attended as a deputation from Cornwall. The mines, as we have already stated, are now nearly 30 fathoms under water; and it was resolved to endeavour to get it in fork with all possible speed. The lords have agreed to lend a helping hand, by setting to work the Wheal Clifford engine; and the operations will at least be continued until the 10th May next. We hope their endeavours may meet with deserved success; for, should the cessation of operations take place, nearly 6000 persons must be thrown out of employ, and it would probably lead to the abandonment of the entire district.

At the Mineral Court meeting, held at Truro, on Tuesday, the accounts were presented, showing—Balance last account, 934*l.* 4s. 7d.; labour cost and merchants' bills for Dec., 503*l.* 19s. 4d.; ditto Jan., 396*l.* 2s. 3d. = 1834*l.* 6s. 2d.—By tin sold (less dues, 15*l.* 3s. 2d.), 257*l.* 13s. 3d.; sale of reserved shares, 94*l.* 10s.—showing balance against the mine, 1482*l.* 2s. 11d. A call of 3*l.* per share was made. The report stated that in breaking down the lode from the backs of this level they had come on some good tin work, and expected, on driving in the 20, another good run of ore.

At Budnick Consols meeting, on Monday, the accounts for four months, ending Dec., showed—Costs and merchants' bills, 2073*l.* 11s. 10d.; balance from last account, 51*l.* 16s. 8d.; ores sold (less dues), 1854*l.* 15s. 3d.; carriage of ore and sundries, 32*l.* 2s. 9d. = 1938*l.* 14s. 8d.: leaving balance against the adventurers of 134*l.* 17s. 2d.

At East Tywarnhayle meeting, the accounts showed—Balance to end of Oct., 4*l.* 2s. 6d.; cost, Nov. and Dec., 310*l.* 12s. 11d.; bills and engine, 1080*l.* 13s. 9d. = 1295*l.* 9s. 5d.—By call, 768*l.*: leaving balance, 627*l.* 9s. 5d.—The engine-shaft is sunk 11 fms. below the adit, and it is expected to sink to the 20, and cut the lode in 10 weeks. In the adit end, driving west, the lode is 4 feet wide, opening tribute ground for the east 7 fathoms, which will work at 7s. in 20s.

At the Runnaford Coombe meeting, at Woolwich, on Monday, the accounts were examined and passed, showing—Cost and merchants' bills for December, 173*l.* 6s.; dishonoured bill, 10s. 8d.; cost and merchants' bills for January, 73*l.* 6s.; mining engineer's report, 15*l.* = 262*l.* 2s. 8d.—By balance last account 77*l.* 7s. 7d.; received on calls, 110*l.* 5s.; ditto sale of shares, 34*l.* 10s.—leaving balance against the mine, 40*l.* 0s. 1d.

It was resolved that a call of 5s. per share be made. The agent's report stated that westward a change for the better had taken place, and that as they approached the cross-course there would be tin; back, west, in the adit, there was a good bunch of tin; that, eastward, the lode was 3½ feet wide, kindly. There was a large cross-course in the old workings, where the tinners had large returns. There are four or five lodes in the sett not yet worked.

At Wheal Squire meeting, on Monday, the accounts showed—Balance end Nov., 130*l.* 9s. 5d.—Mine cost for Dec. and Jan., 71*l.* 12s. 8d.; lord's dues, 12*l.* 1s. 9d.; Mr. Crotch, bill, 9*l.* 18s.: leaving balance in favour of adventurers, 36*l.* 17s. Capt. Richards was appointed purser and manager, Mr. G. Vawdry surgeon, and Mr. F. Michell engineer.

At Bollowal and Nanpean meeting, the accounts showed—Mine cost for the three months ending Dec., 294*l.* 12s. 1d.; dues and merchants' bills, 73*l.* 2s. 9d.; balance against mine last account, 730*l.* 16s. 3d. = 1098*l.* 11s. 1d.—By tin and credits, 289*l.* 16s. 2d.; call made 15th Nov., 200*l.*: leaving balance against adventurers, 608*l.* 14s. 11d.

At Wheal Owles meeting, the accounts showed—By sale of tin ores, 2210*l.* 18s. 11d.; deductions from tributers' cost, 218*l.* 3s. 9d.; received for tin leavings, 136*l.* 19s. 5d.; subsist receipts, 117*l.* 15s. 4d.; balance from the last account, 690*l.* 17s. 7d. = 4374*l.* 15s.—Mine cost for three months, 2292*l.* 17s. 6d.; dues, merchants' bills, and subsist, 1141*l.* 6s. 4d.: leaving balance in hand, 940*l.* 11s. 2d.

At East Buller meeting, on Tuesday, the accounts for the four months ending December, showed—Balance from last account, 187*l.* 14s. 11d.; costs and merchants' bills, 422*l.* 13s. 2d. = 610*l.* 8s. 1d.—By calls in Oct., 512*l.*: leaving balance against adventurers, 98*l.* 8s. 1d. A call of 10s. per share was made.

At the Wheal Crebor two-monthly meeting, on Monday, the accounts for Dec. and Jan. showed balance of 314*l.* 16s. 1d. in favour of the mine, and the statement of assets and liabilities a balance of the former of 234*l.* 16s. 1d. Reports from the committee of management, Mr. Arthur Dean, Captains James Richards and William Doble were also read. [The reports of Mr. Arthur Dean and Capt. James Richards are given among our Mining Correspondence.] The committee, in their report, refer with pleasure "to the great improvement which has taken place in the state of the mine since the last general meeting, and hope that the favourable results formerly held out are about to be realised. The terms of the mineral lease of Lord Devon's property have been settled; no call is required, for the present, at least; and the nature of the operations is such as to enable much work to be done with a comparatively small outlay." The working cost for the two months, including materials, had been 221*l.* 13s. 4d., and from commencement of operations, 1193*l.* 14s. 2d. The costs for Feb. are estimated at about 130*l.* The amount realised by the sale of ores had been 79*l.* 11s. 11d.

At the Coombe Valley Slate Company's meeting, letters were read from Messrs. A. Malcholm (the manager), A. S. Leech, and N. Ennor, recommending that the quarry ought at first to be worked with 50 men, and then at the end of the year see what the quarry had earned, and act accordingly. The manager stated that the works are let under written contracts, at such prices as will be likely to yield a profit of 40 to 50 per cent. upon the outlay. The calls in arrear amount to 228*l.*; there are no liabilities, and 22*l.* in the Bank, besides a stock of slate ready for sale, worth about 250*l.*

At the Wheal Sophia meeting, held on the mine, the accounts were examined and passed—Showing arrears due, 508*l.* 6s.; balance last account, 56*l.* 9s. 10d.; calls, 128*l.* = 692*l.* 15s. 10d.—By costs and merchants' bills, November, 100*l.* 9s. 8d.; ditto, Dec., 51*l.* 17s. 5d.; arrears, 284*l.*; due on forfeited shares, 252*l.* 16s.—leaving balance in favour of adventurers, 53*l.* 12s. 9d. It was resolved that, from the favourable report of the mine, and it being now filled with water, that the working be supended for two months, and all arrears be immediately collected, and all who have not paid within a month be proceeded against; that all liabilities be immediately discharged, and in case money was wanted, a call of 5s. per share to be made. The report of Capt. Luke, above alluded to, stated that he had cut a rich lode, and raised a few kibbles of stuff, when the water rushed in and overpowered the machinery. The erection of a wheel will cost about 10s. per share.

At the New East Crowndale meeting, at Plymouth, on Thursday, the accounts were examined and passed, the committee's report adopted, the mine divided into 2048 shares, and Capt. Carpenter appointed manager and purser. The report of the manager stated that he had obtained a grant of a valuable piece of land east of the boundary, by giving up the use of a certain stream, but which water would still be brought on their wheel, after leaving the adit of the United Mines, Tavistock; he considers the sett one of the most eligible that has been opened on for years. [The report is inserted among our Mining Correspondence.]

At the Pentire Glaze meeting, a report from Capt. Jehu Hitchens, who had been appointed to inspect the mine, was read, highly favourable to the property, which was further confirmed by the statements since received from Captain Kneebone. A call of 5s. per share was made, auditors appointed, and the finance committee re-elected.

At the Wheal May meeting, on Thursday, a call of 5s. per share was made. From the statement made by the secretary, but 52 new shares were wanting, which would be equal to 130 old certificates.

A cargo of 350 tons of copper ore has arrived at Swansea from South Australia during the week.

The directors of the Barossa Range Mining Company have procured from their mines two stones of copper ore from the 12 fm. level, at Lyndoch Valley, in reference to which a letter, dated South Australia, Oct. 3, says:—"Two stones of copper ore, worth 40 per cent., weighing about 4 cwts., have been taken from Lyndoch Valley Mine, leased by the Barossa Range Mining Company. These have been examined by competent judges, and pronounced to be the finest stones of ore they have ever seen—sulphurets." The manager reports—"They are the best stones of copper ore I ever saw." The directors have obtained permission to send them to the Exhibition.

From the Alten report, from the 6th to the 20th Jan., it appears that at Raipas, upon the whole, the present workings are wearing an aspect of rather a gloomy nature, and unless something new presents itself (which, however, is expected), the produce for the month will not exceed 3 tons. In the United Mines there is no change to notice. The pitches in the old mine have somewhat improved, but at Michell's they are still poor.

From the Linares advices, dated Feb. 15, we find that Wilson's shaft contains a valuable lode, yielding 7 tons per fm. In the bottom of the 31 fm. level a piece of ground has been discovered in the old workings, worth 4 to 5 tons per fm., and much interest is felt in the extension of the 45 fm. level under this part.

The reports from Copiapo, under date Dec. 24, are highly encouraging; the whole of the mines are progressing so satisfactorily that the commissioner observes—"I cannot close this report without making a remark or two on the company's mining property; and, in the first place, allow me to call your attention to the copper mines. Checo has scarcely, during the year, looked so well as at the present moment. La Compania has gradually gone on improving, and now bids fair to stand high in the mineral; and I may say precisely the same of La Reyna, for I do not think such a lode as this can possibly fail of giving great returns. Then, there are the mines at Flamenco, which are opening themselves, although slowly, yet very satisfactorily, and I believe that this also will make a great mineral; in fact, I have already seen from the neighbonrhood stones rich for copper, and also thickly interspersed with silver."

From Santiago the advices bear date Jan. 13. There is little to notice at Perseverancia or San Joaquin, but at Angelina the lode had been cut, but the value could not be judged, as they had not reached the north wall.

The Austrian Zoll-Congress terminated its labours on the 20th Feb., at Vienna. The tariff on metals is not so favourable as might have been anticipated in this age of progress: the duty on iron when exported by sea or non-Austrian Italian districts has been considerably raised. The exports of cobalt and nickel ore which have hitherto been principally taken by England, has likewise been raised, and through the whole of the debate a hostile feeling appeared to be manifested towards the products of Great Britain. Import and export duties were likewise voted on copper ores and pig-lead. Our limits this week do not allow us further to enter into detail, but in our next Journal we propose taking a review of such subjects in the Austrian tariff that we may consider of interest to our mining and metallurgical interests.

The Omdal Copper Works, in the province of Upper Tellemarken, Norway, being offered for sale, a few particulars respecting them may be acceptable. The mines were taken up in the year 1825, by some English speculators, and, after being worked a short time, were disposed of to Mr. John Irving, of the firm of Reid, Irving, and Co., of London. The ores are copper pyrites, with some of the carbonates: owing to the heavy cost of fuel and transport, they could not be explored advantageously, and for the last few years only a sufficient number of labourers have been employed to reserve the rights of the proprietors, in conformity with the Norwegian laws. The Royal Finance Department at Christiana have, on several occasions, advanced different sums of money on mortgage, and it is on their requisition that the auction is to take place. The buyer is to take the property, with all its burdens, from the 11th June next, and to pay all *arrears of taxes and public debts unpaid*, as well as all the preliminary expenses that have been incurred, the debt due to the Treasury to be paid in twenty half-yearly instalments, commencing next December. From the great distance of the mines from a port of shipping, and the many legal technicalities connected with the purchase, we apprehend that some difficulty will be found in procuring a buyer venturous enough to speculate. A detailed report of the property should have been published, with the authority of a competent person, though, from local causes, probably, this would not have been of much service, as we imagine, had the plant been of any great value, Messrs. Reid and Co. would not so long have neglected its development.

SILVER-LEAD ORE

Sold at the Mine, on the 24th of February.

Mine.	*Tons.*	*Price.*	*Purchasers.*
Wheal Mary Ann	90	£20 13 6	Exors. of J. T. Treffry.
Sold at the Mine.			
East Wheal Rose	50	£14 9 6	ditto
ditta	43	14 2 0	ditto
Callington	45	17 10 6	Sims, Willyams, & Co.

BLACK TIN

Mines.	*Tons c. qr. lbs.*	*Price per Ton,*	*Purchasers.*
South Friendship Wh. Anne	1 10 0 0	£50 0 0	Calenick Company.
Tincroft	12 0 0 0	44 10 0	Union Smelting Co.
ditto	6 0 0 0	44 10 0	Calenick Company.
ditto	6 0 0 0	44 10 0	Bissoe Company.
Budnick Consols	8 8 1 20	57 0 0	Daubuz and Calenick.
ditto	21 8 1 26	52 7 6	ditto and ditto
ditto	3 1 1 7	46 15 0	ditto and ditto
ditto	3 11 0 17	47 15 0	ditto and ditto
ditto	1 1 0 6	35 5 0	ditto and ditto

COPPER ORES.

Sampled Feb. 12, and Sold at Lenderyou's Hotel, Truro, Feb. 27.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
United Mines	118	£6 16 0	Par Consols	70	£4 12 0
ditto	101	3 14 0	ditto	50	4 15 0
ditto	70	3 16 0	ditto	35	4 0 0
ditto	63	5 8 0	South Tolgus	70	3 13 0
ditto	57	1 18 0	ditto	60	4 14 6
ditto	52	2 18 0	ditto	39	4 8 6
ditto	51	5 10 6	ditto	35	9 17 6
ditto	50	3 7 0	ditto	20	2 19 0
ditto	49	6 2 0	South Caradon	79	8 11 6
ditto	47	5 6 0	ditto	52	7 10 0
ditto	46	6 8 0	ditto	45	6 16 6
ditto	38	2 14 0	ditto	28	4 15 0
Tresavean	92	2 12 6	Treleigh Consols	84	3 6 0
ditto	77	3 2 0	ditto	41	5 10 6
ditto	69	2 8 0	Wheal Mary	47	3 18 0
ditto	65	2 4 0	ditto	30	5 6 0
ditto	42	2 15 0	ditto	10	1 18 0
Wheal Comfort	99	1 16 0	West Wheal Basset	46	3 14 0
ditto	82	1 16 0	East Wheal Rose	42	10 9 0
ditto	63	0 18 0	Wheal Clifford	13	5 18 0
ditto	57	1 2 0	Richards's Ore	11	4 12 0
Par Consols	106	6 3 6	Wh. Union	5	4 0 0

TOTAL PRODUCE.

United Mines	742	£3435 13 6	Wheal Mary	87	£361 6 0
Tresavean	345	904 6 0	West Wh. Basset	46	170 4 0
Wheal Comfort	301	445 4 0	East Wheal Rose	42	438 18 0
Par Consols	261	1354 1 0	Wheal Clifford	13	76 14 0
South Tolgus	224	1116 4 0	Richards's Ore	11	50 12 0
South Caradon	204	1507 11 0	Wh. Union	5	20 0 0
Treleigh Consols	125	503 14 6			

Average Standard ..... £105 2 0 | Average Produce 6¾
Average Price per ton £4 6 6
Quantity of Ore ..... 2406 tons | Quantity of Fine Copper, 161 tons 14 cwts.
Amount of Money £10,384 8 0
LAST SALE.—Average Standard ..... £ 95 19 0.—Average Produce 9¼
Standard of corresponding sale last month, 102*l.* 13s.—Produce, 7¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	106	£518 10 6
Vivian and Sons	359	1925 18 9
Freeman and Co.	418	1530 0 10
Greenfell and Sons	379	1466 0 4
Sims, Willyams, and Co.	326	1512 4 7
Williams, Fester, and Co	539	2068 3 0
Schneider and Co.	165	741 10 6
Mason and Elkington	114	621 19 6
Total tons	2406	£10,384 8 0

Copper ores for sale on Thursday next, at White's Hotel, Pool.—Mines and Parcels.—North Roskear, 109, 101, 95, 91, 84, 64, 58, 56, 53, 39: total, 750.—Tincroft, 88, 82, 80, 63, 60, 55, 53, 49, 42, 41: total, 613.—North Pool, 103, 86, 84, 59, 57, 47, 46, 18; total, 500.—Consolidated, 102, 89, 88, 67, 55, 40: total, 441.—Wheal Basset, 118, 101, 69, 50: total, 338.—Wheal Seton, 66, 64, 60, 54, 49, 37: total, 330.—South Frances, 80, 61, 48, 47, 38, 14: total, 291.—Fowey Consols, 98, 97: total, 195.—Camborne Consols, 18.—Pendarves and St. Aubyn, 11.—Total quantity of ore for sale, 3487 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 664—Tywarnhayle 380—Wheal Buller 363—Par Consols 258—Alfred Consols 215—Levant 140—Bottallack 68—Wheal Agar 53—Trannack and Bosance 34—Cook's Kitchen 29—Trelyon Consols 24—Copper Bottom 23—Lemin 11.—Total, 2262 tons.

COPPER ORES.

Sampled February 5, and Sold at Swansea, February 25, 1851.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	106	15¾	£12 0 0	Cuba	72	13¾	£10 3 6
ditto	88	16¾	12 0 0	ditto	71	14	10 3 6
ditto	70	16¼	11 11 6	ditto	59	24½	17 15 6
ditto	60	16¼	12 6 0	ditto	55	20¾	15 6 0
ditto	58	24¾	18 1 6	ditto	49	15¼	11 18 0
ditto	51	24¼	18 1 6	ditto	28	28	20 18 0
ditto	48	25	18 4 6	ditto	6	25	18 16 0
ditto	17	20¼	15 8 6	ditto	6	82½	62 5 0
ditto	54	15½	10 16 0	German Ore	57	7½	5 7 0
ditto	18	17½	12 18 0	ditto	34	6¼	4 12 6
ditto	9	83¾	62 10 6	ditto	19	10¼	8 3 0
ditto	56	15¼	11 19 0	Forest Slag	45	5	2 19 0
Cuba	105	14½	10 12 0	Lackamore	40	8½	6 3 6

TOTAL PRODUCE.

Cobre	635	£9028 1 6	German Ore	110	£617 1 0
Cuba	451	6112 17 0	Forest Slag	45	132 15 0
Lackamore	*Tons* 40	£247 0 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	167	£2044 19 6
Grenfell and Sons	118	1685 1 0
Sims, Willyams, and Co.	34	698 0 0
Vivian and Sons	320	3402 5 0
Williams, Foster, and Co.	316	3902 12 0
Mines Royal	287	3317 15 3
Schneider and Co.	39	1087 1 9
Total	1281	£16,137 14 6

Copper Ores for Sale March 18.—Cobre, 360—Burra Burra, 350—Berehaven, 105—German Ore, 83—South Australian, 48—Ballynoe, 37.—Total, 983 tons (21-cwts.)

AVERAGES.

	Produce.	Price.	Standard.
British	6¼	£ 4 9 0	£101 19 0
Foreign	17¾	13 3 6	86 13 6
Sale	17¼	£12 12 0	£87 1 0

Totals—British, 85; Foreign, 1196 = 1281 tons (21 cwts.)

AVERAGES OF LAST SALE.

	Produce.	Price.	Standard.
British	11¾	£ 8 12 0	£91 6 6
Foreign	18	13 6 0	86 1 0
Sale	17¼	£13 2 0	£86 4 0

Totals—British 79; Foreign, 1767 = 1846 tons (21-cwts.)

MINING APPOINTMENTS FOR THE WEEK.

1. Pay at Devon Consols, Par Consols, South Frances, Condurrow, North Roskear, Trannack and Bosence, Tresavean, Trethellan, Grambler, West Wheal Jewel, Perran St. George, Polberro.
3. South Frances account, on the mine.
5. Devon Consols and other mines sampling.
6. Ticketing at Pool—North Roskear, Tincroft, and other mines.
7. Pay at South Basset.
8. Pay at Dolcoath, Stray Park, East Crofty, Alfred Consols, and Phœnix.

NOTICES TO CORRESPONDENTS.

We have been compelled to postpone Mr. Watson's "Compendium of British Mining" until our next.

James Browne (Manchester).—The Roraas Mines, in Norway, have never been in possession of the Government; they have been worked at different times by three several companies. One of the first proprietors in the early commencement of the eighteenth century was Thomas Angell, an Englishman, whose descendants are now settled at Drontheim; from the profits of his shares in these mines he left enough money to endow an hospital for aged and infirm women. The shares at present only realise 4 per cent. This is owing to the heavy cost of fuel, and the great distance from which wood is to be obtained.

"W. L."—A model of Mr. Weston's "Novo-motive" system is exhibited and explained daily at the Polytechnic Institution: a letter addressed to our office will be forwarded to Mr. Weston.

"F. I. C." (Callington).—The mine of Chessy, near Lyons, is noted for its specimens of blue carbonate of copper. There are two half-high furnaces there; but the production is so small, that they are not in work for more than half the year. This is the only copper mine in France at present worked, though there are indications of copper to be found in several of the departments.

"B." (Leeds).—The Clijah and Wentworth form a part of the sett worked in 1836 as the Great Redruth United: we are unable to give the particulars required.

"T. C. S." (Baker-street).—Collins mentions, in his *Peerage*, that the first auction took place in England in 1691: this was occasioned by Elihu Yale, Esq., who brought such large quantities of goods from India, that finding no house large enough to store them in, he had a public sale of the overplus. On his tomb, in Wrexham, Denbighshire, is, or was, the following inscription:—"Under this Tomb lies interred Elihu Yale, of Place Gronow, Esq., born 5th of April, 1648, and died 8th of July, 1721—aged 73 years.

Born in America, in Europe bred,
In Affric travell'd, and in Asia wed,
Where long he liv'd and thriv'd—at London dead.
Much good, some ill, he did—his hopes all even,
And that his soul thro' Mercy's gone to Heaven.
You that survive and read take care
For this most certain exit to prepare,
For only the actions of the just
Smell sweet and blossom in the dust."

A correspondent writes—"I understand an ingenious mechanic has solved the problem which so long baffled the improvers of the steam-engine, and invented a mode of generating by steam a rotary motion in the cylinder, possessing all the power of the piston, with the immense advantage that a continuous force must have over a reciprocating one."

The descriptive notices of Sir Francis Knowles' method of producing iron and steel direct from the ore appeared in the Journals of the 12th and 19th December last, both of which are out of print, but they can be seen at Peele's Coffee-house, Fleet-street; Deacon's Coffee-house, Walbrook; or at any other place where the Journal is filed.

"A Lapidary" (Bond-street).—We should, instead of "pearl of the Black Prince," in our notice last week, have stated "ruby." This was worn at the Battle of Cressy in the helmet of the "immortal hero."

Weston's Novo-motive System of Railway Propulsion.—We have received a report on this invention—a model of which is now exhibiting in the Polytechnic Institution, by Mr Alexander Doull, C.E., of Greenwich; and while it would, under any circumstances be to long for insertion, we can, in this case, only notice its tendency generally. It appears to us to be by no means such a report as should be issued by an engineer, who has given a close attention to the subject on which he writes, and from mathematical deductions has come to an honest conviction on its merits. It deals only in generalities, opening with an essay on the brilliant discoveries of the present age, the tendency of inventors to complex machinery, and the necessity of seeking for greater simplicity. He assumes the fact that the "novo-motive" is *the* plan which alone must supersede the locomotive; that it is calculated to supply all the requirements of a railway in speed, safety, and economy in first construction and wear and tear; and we have no reason to believe that, from a general view of the model, he has not a sincere belief of its merits, but we have not throughout one single figure of calculation to prove the great merit he claims for it. It would have looked somewhat more official and business-like, in an engineer's report, to have given something like an estimate of cost of laying down a mile of rails, with the driving carriage, continuous pneumatic tube, fixed pistons, with their valves and accompaniments, sliding tubes with the longitudinal openings and their valves, with the air pumps, engines for working them, and every other cost, and also a complete estimate of working expenses, per train per mile. Admiring, as we do, the advance of scientific principles, we heartily wish Mr. Weston all the success the merits of his invention deserves, but we cannot think such a report can do good to either party, appearing from its warmth of eulogy, and that without trial, of too friendly a nature to be a perfectly impartial report on a much disputed and truly engineering subject, requiring searching investigation. It is stated that steps are taking to form a company to construct a single working line, and that a piece of ground can be obtained between Chatham and Maidstone, with plenty of water at hand for working power.

Wheal Tom, and Bodmin Moor Consols.—We have received the account of meetings, reports, &c., which shall be inserted next week.

A pressure on our space has compelled us to postpone answers to many correspondents.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

*** It is particularly requested that all communications may be addressed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, MARCH 1, 1851.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

A lecture on that important subject—explosions in coal mines—of a more than usually lucid character, was recently delivered at the Mechanics' Institution, Wakefield, in the West Riding of Yorkshire, by Mr. Charles Morton, one of the Government inspectors of coal mines for the district, at which several leading colliery managers were present. The lecturer, after observing on the difficulty of rendering his subject popular to a mixed audience, proceeded to show the great wealth and extent of our coal districts—the working miners, numbering 120,000 to 150,000, affording subsistence to probably 750,000—and alluded to the fatality of the collieries, statistics, though not very accurate, showing upwards of 300 lives lost per annum, the casualties amounting to probably between 300 and 400 more. All these circumstances made the subject one of immense importance to the colliery population, and the sympathy of the public had at length obtained legislative interference. The lecturer then described the origin and constitution of fire-damp, which having been so repeatedly commented on in our columns, we have no occasion here to repeat. To prove the vegetable nature of coal, an analogy between the gas of our present marshes to the fire-damp of coal mines was instituted—one being carburetted hydrogen, the other an oxide of carbon. Fire-damp was light carburetted hydrogen, carbonic acid, and atmospheric air; while the composition of vegetable fibre was carbon, oxygen, and hydrogen. From the unseen and unknown cavities it sometimes rushes out with great violence, and in considerable volume, throwing off large masses of solid coal, and speedily rendering the entire atmosphere of a mine explosive; these were technically called "bags of foulness." Some "blowers" emitted several hundred cubic feet of gas per minute. At Wall's-End there was a large blower piped from the mine to the surface, where it flamed away from the top of the pipe. At Saltonlow Bottom Colliery, in Cumberland, there was another "blower" of such force as to sustain a flame 20 or 30 ft. long at the top of the pipe. In one of the Whitehaven collieries, the volume of gas discharged was so great that an attempt was made to light the streets with it; whilst at one of the Earl of Durham's collieries a pipe had been blowing off fire-damp for many years, accompanied by a loud noise, like the blowing off of steam.

There could be no doubt but that the impure air in mines laid the foundation for many diseases, and raised, independently of deaths from explosions, the mortality above the general average. The underground avenues of a mine might be likened to the streets, lanes, and alleys of a town, through every one of which a current of pure air ought to be passing, at a rate of not less than 4 or 5 ft. per second.

The lecturer then proceeded to show the various causes of explosions from recklessness or thoughtlessness; the nature and effect of the after-damp (eight of nitrogen, two of watery vapour, and one of carbonic acid), which, though not inflammable, was more destructive than the fire-damp itself. The last division of the subject was a consideration of the mechanical and chemical arrangements which had been suggested for diminishing the frequency and fatality of colliery explosions. In some collieries no artificial means of ventilation were attempted, the only draught being a feeble and very variable one. In others a waterfall was turned down the shaft, giving a downward impulse, and rendering the upcast shaft the warmest. The furnace, the steam jet, and other modes of giving improved ventilation, were described, and it was stated that there were some shafts, in the mouth of which more than 100,000 cubic feet of air per minute were made to ascend. The object of the furnace was to keep the gas below a given point, and as 12 or 13 of air to 1 of gas was dangerous, there ought, at least, to be 40 to 1 for safety. The rapidity of the current should in no instance, nor in any part of the mine, be less than 4 or 5 ft. per second, and 3 and 3½ miles per hour. This result might be accomplished by a skilful management of brick stoppings and moveable doors, to distribute the air uniformly through every avenue. As one current of air, however, was at times compelled to travel in one feeble stream 30 or 40 miles, it should not be attempted, but in its place the splitting of air into two or more currents should be aimed at, as by the latter mode each current might be limited to four miles in length, and all the currents, by shortening them, would travel more easily and at greater speed. In some deep mines only one shaft was sunk, and that was used for every purpose; perhaps divided by plank partitions into three or four parts, one of the parts being the upcast; but this method was extremely dangerous, and ought to be prevented. A full description was given of how stoppings and doors should generally be managed for most efficient working, and the construction of brick arches, to cause a division of the currents of air; and the lecturer then proceeded to describe the several suggestions which had been made to obtain a sufficient and safe light. An instrument called the "steel mill" was formerly used as an artificial light in fiery places. At other times, in sinking pits, the sun's rays were turned down by means of a reflector; whilst, again, the Drummond light, or oxy-hydrogen gases and lime-ball, aided by a series of reflectors, had often been recommended for lighting mines. In Belgium, fungus timber had been much used for the same purpose, but its light was exceedingly weak. Sir Humphry Davy suggested Baldwin and Cantox's phosphorus, and also electrical light in close vessels. More recently the voltaic light from charcoal points, in glass vessels, had been recommended by some persons. One ingenious gentleman proposed to carry coal gas down the pit in pipes, and distribute it in flexible tubes through the works, the gas lights to be insulated. He contrived another set of tubes to feed them with fresh air, and another set to carry off the products of combustion. These, as well as many other impracticable and exceedingly costly schemes, had been suggested by theorists. The safety-lamps at present in use were Davy's, Clanny's, Upton's, and Biram's. The Davy lamp, however, was more extensively adopted than any of the others. It was not safe under all circumstances, and this fact ought to be more generally known amongst coal miners.

Mr. Morton concluded by stating, there were collieries where too much reliance was placed on the lamp, and not enough on proper ventilation. An improved class of intelligent underground agents and stewards might also do much in decreasing loss of life; and there was great need in England for mining colleges, for the better and more scientific education of those who were intended for the management of collieries. The miners also might be taught better to protect themselves. The lecture terminated amid much applause; and a vote of thanks was unamimously passed to the talented lecturer.

A free competition in trade has been generally supposed to give the greatest incentive to the producer to develope and extend his industrial pursuits; at the same time, it is highly beneficial to the consumers, who in general are the parties most interested in the abolition of injurious monopolies. Our volatile neighbours on the other side of the Channel do not appear, however, to be of this opinion, and one of the greatest necessaries of life in Paris is now under a process of taxation, to gratify the cupidity of a few coalowners—negativing the axiom that the demand should regulate the supply and the market value. The coal proprietors of Mons and Charleroi have coalesced with those of the Loire, to prevent the price of coals from falling below a certain agreed limit in the metropolitan market of France. Previous to the year 1837, the coal basin of the Loire was parcelled out in a number of small works; in fact, this principle was so carried out, that in that district alone there were 65 concessions. Meetings were held in the coal districts of the north, deprecating the present unequal duties levied on the importation of coal, by which English coal is taxed on its admission to France by a duty five times as great as that on Belgian coal. The Chamber of Commerce at Rouen has asked for a reduction of the duty to 2s. 6d. per ton: on this they and the Boulogne Chamber disagree, as although it would be an important reduction for the district in which both Boulogne and Rouen are situated, it would afford none to a large part of the sea-coast, and would actually increase the present charges on a part of the land frontier. They, therefore, demand a uniform reduction to the lowest scale of duties now charged under any circumstances, and name the amount to be 1s. 3d. per ton for large coals, and 10d. per ton for small.

The St. Etienne Coal Company, who seem to be the greatest monopolists, appear to have been increasing the price, while they have diminished the supply and deteriorated the quality of the article they have produced. In 1840, there were 56 shafts in work; in 1850, but 25. In 1842, the 15 concessions had only 11 shafts out of work; in 1850 they had 61. The coals sent to market for St. Etienne, in 1846, were about 712,126 tons; in 1847, 614,160 tons; in 1848, 443,216 tons; and, in 1849, 431,495 tons. Owing to this diminution of the quantity sent for sale, prices have successively increased by 50, 80, and 100 per cent., and the quality is lowered by 25 per cent.; thus while the coalowners have been gaining, the iron-masters have been losing. As an instance of this, the gunmakers, who could formerly turn out 60 barrels a week, cannot do more than 46 or 48, and that at a loss. The great manufactories of the Loire have likewise been sensibly affected by these charges; and the small town of St. Etienne alone for household consumption pays annually a tax of 8000*l.*, solely levied on them by the monopolists. Some parties are advocating the dissolution of the St. Etienne Company, whilst others advocate the throwing open of the trade, doing away with the protection against foreign competition—not with the view that English coals in the present state of communication would find their way to the basin of the Loire, but in the hopes they might exercise a salutary effect, which would communicate itself by degrees to the market of the centre, and by the influence of which the French proprietors would be compelled to lower their prices, and at the same time to adopt improved and economical means of working, to meet the competition which would inevitably arise. The produce of France may be considered about one-ninth of that of Great Britain. Hitherto, the greatest quantity of foreign coal imported into that country has been from Belgium; and it is of great importance to us that a fair and reciprocal tariff should be established. On the part of the British, we demand no extraordinary concessions. All that we require is "a clear stage and no favour."

We have at different times impressed on our miners and smelters the absolute necessity of a more economical mode of dressing and smelting than that hitherto practised being introduced in our mineral and metallurgical establishments. In this task we have been ably seconded by several talented correspondents, and we have always considered it our duty to give publicity to any communication which we thought would aid these important branches of our national industry. Unfortunately, our labour has been in vain; every hint that has been given has been received with apathy and neglect, and allowed to pass unheeded and uncared for. We by no means wish to infer that every improvement or invention that obtains publicity through the medium of our columns is perfect and practicable, and ought instantly to be adopted, but we are decidedly of opinion that such of them as bear the aspect of common sense and practical knowledge should be investigated; if found of utility, then to be introduced for the benefit of the manufacturer, the inventor receiving his meed of praise and profit at the same period. When any question on this vital subject has been mooted, it may invariably be observed that those most interested have hung back, or carried on the discussion in such a one-sided manner that the simplest reader could plainly see that their desire was to elicit information from others, without rendering any themselves; or when arrived at a certain point, they have allowed the matter in dispute to perish of sheer inanition. It may be remembered that as soon as any foreign establishments for the smelting of copper have been projected or carried into effect, we have always given the earliest information of the fact, together with such correct data as could be confidently relied on. There have been within the last 13 years works erected in Norway, America, Hamburgh, and Australia—in fact, in the two latter places during the last three. At the first erection of these works, we expressed a fear that those in our Australian possessions would soon become formidable competitors to our home establishments. Their copper is now in high repute, and already rivals us in the Indian market. That our ideas were not ill-founded will be fully corroborated by the perusal of a report of the Burra Burra Mine and its ores, which appears in another column.

From this it will be seen that the ores produced in this monster mine are carbonates and oxides of copper, which neither are subjected to the tedious and tardy processes of dressing and smelting practised here, nor the addition of those expensive fluxes, which are required to reduce the stubborn Cornish ores. This, for some years, has been partially obviated by the introduction of rich easy-smelting ores, to mix with the poor and difficult minerals of our own production. As an inevitable consequence of the consequence of the construction of smelting-works in those localities from whence we received those necessary supplies, all those mines which can avail themselves of a fair market, easy transport, without the expenses, risk, and dangers of the sea, combined with quick returns, will send their produce to be reduced at the nearest spot. There is abundance of wood for fuel: coals have been discovered in New South Wales. It must be borne in mind that South Australia, though it has made rapid strides, is yet in its infancy, and our belief is that not one-hundredth part of the mineral resources of the colony have yet been discovered. The export of copper has commenced, and that of ore must diminish. Hamburgh and the United States are depriving us of the supplies from South America, and, in the course of a few years, it requires no great foresight to predict that our trade in foreign ores will almost be *nil*.

That this opinion is based on practical information, and not on theoretical speculation, the annexed table of the exports of copper and regulus from Chili, in the period between 1841 and 1849, will show. By this it will be seen that the export of copper has steadily increased, while that of the raw material has decreased. In 1841, the value of copper exported was 289,712*l.* 7s.; in 1849, 547,105*l.* 4s. In 1841, the value of ore was 141,013*l.* 8s.; and, in 1849, 41,758*l.* 17s.

	BARS (at £14).			ORES.			REGULUS.		
Years.	Weight.	Value.		Weight.	Value.		Weight.	Value.	
	Tons cwt.	£	s.	Tons.	£	s.	Tons.	£	s.
1841	4776 10	289,712	7	12,910	141,013	8	—	—	
1842	3821 15	231,858	18	18,398	199,313	18	—	—	
1843	3695 0	224,157	5	21,329	226,000	5	—	—	
1844	4411 0	262,199	3	16,419	177,820	7	5527	107,762	12
1845	5049 15	315,196	15	14,228	154,134	8	4639	90,469	8
1846	6529 0	396,076	7	10,224	116,173	8	5152	100,692	5
1847	7046 0	427,340	19	4,729	51,234	2	4310	84,041	16
1848	7522 0	456,349	15	4,705	53,733	10	4249	82,854	10
1849	8936 0	547,105	4	3,844	41,758	17	2968	52,882	16

Our readers can judge for themselves. With these facts staring us in the face, we would ask, is not the supineness of our mineral interest, to say the least, highly culpable? It may be urged that the present system has worked well—that the proprietors are men of large fortune, &c. This has occurred when we were without competition, and could we have prevented excessive production, and cheap reduction abroad, under the old *regime* the same state of prosperity might have continued—"*Tempora mutantur and nos mutamur in illas.*" Although we cannot revert back to the old order, and must be considered in a state of transition at the present time, it is not too late to remedy some of the ills which appear to threaten us. We cannot change the chemical combinations of any mineral, but the adoption of practical inventions, guided by chemical knowledge, may enable us to avail ourselves of such improvements as will allow us to keep pace with our more fortunate rivals. If this is, however, to be done, it must be so immediately; further procrastination will only render the task more difficult when the evil day arrives; and although the present proprietors may escape scatheless, it will inflict a lasting and a deep injury on their successors. We know the aversion there is in all classes to any change, and we are aware that in our mining and smelting districts this feeling is carried to a great excess. Within the last 10 years revolutions have been effected, both in states and in all branches of industry. We shall conclude by simply asking the question, do the miners and smelters expect to remain stationary, while all the world is progressing?

A case of much interest to the working miner, the agent, and mining adventurer, numbers of whom were present, came on for hearing at the Redruth County Court last week. The plaintiffs were George Trestrail and John Hicks, tributers, and the defendants Thomas Garland and the Carn Brea adventurers. Mr. Rogers was for the plaintiffs, and Mr. Stokes for defendants. It was an action to recover 40*l.* 3s. 4d., being 13s. 4d. in 1*l.*, on 2 tons of rich copper ore, valued at 30*l.* 2s. 6d. per ton. The two plaintiffs, on being sworn, said they had on the 27th Sept. last taken a pitch in the 46 fm. level in the Carn Brea Mine, at 13s. 4d. in 1*l.*, and having worked it a few stems short of a month the agents charged them with "kitting," took the ore from them, and mixed it with the adventurers pile at surface. While the agents were doing this they took a sample of the ore, and had it assayed, and the produce was 42½ per cent.; they produced the assay ticket.

For the defence, Capt. John Lenton proved that he let the pitch to the defendants; it was "an old sodger," was very poor, and had been idle for 12 months. Henry Paull, Wm. Paull, A. Harris, and R. Endean, each deposed that, in October last, they broke a lot of rich black and grey copper ore—that they met the plaintiffs coming from the Boundary shaft, near which their pitch was, and saw that their faces were very black. They came to the winze in which witnesses worked, and said, what sort of lode have you got?—They said, a very fine one. When they got to their winze, they found some of the ore gone, and a pile flattened, which was previously rounded up. The two pitches were on the same lode, but 37 fms. apart, and the ore in the winze a rich black; while that at the Boundary was a red stuff, and very poor for copper. A lad, named Annear, positively swore that he saw Hicks, one of the plantiffs, take black ore from the heap, and told him to say nothing about it. The old watchman also proved that the plaintiffs came on two nights after midnight—change and go down to work; that he was suspicious of them, but did not tell the agents. His Honour, in giving judgment, said there was such a chain of circumstantial evidence, that he must decide against them, in favour of defendants. Capt. Lenton stated that they had 150 pitches and 56 miles of levels in the Carn Brea Mine.

We incidentally noticed, in last week's Journal, that in the case of Harvey and Co. *v.* Higgins, the purser of Wheal Reeth (previously reported), the Vice-Warden had giving judgment, decreeing that payment of the 200*l.*, with costs, should be made on the 25th March next. As the case is an important one, and the judgment itself of great length, while the law of the Stannaries' Courts is most explicity laid down, we shall devote a short space to go through the principal points. After going at considerable length through the accounts with the Messrs. Batten, the former pursers of the mine, which were rather intricate, from the Vice-Warden's remarks, it appeared that at an audit, in June, 1849, the whole demand of the plaintiffs, 503*l.* 13s. 9d., was allowed; and that in September following, the Messrs. Batten were in advance to the mine, 1385*l.* 18s. 8d. The liabilities of a mine are generally made up to within two or three months of the audit, and not then immediately paid, but credit taken for six weeks or two months, when probably the purser will pay in cash by cheque, or sometimes the creditor will draw upon the purser for the amount due. There were large sums received and paid by Battens between the audit of September and that of November, on account of the mine; and, as their advances remained unliquidated, they proposed a call, which, however, was opposed in consideration of the poorer shareholders; and it being hoped that an early supply of produce would enable them to pay the liabilities, it was resolved to enforce the outstanding calls. On the 27th Sept., Mr. Rawlins, on the part of plaintiffs, applied to Battens for their claim on the mine, and was informed that there were no funds, and that they were yet considerably in advance to the mine; eventually agreeing as pursers to accept a Bill of Exchange at two months for 500*l.*, and pay the odd 3*l.* 13s. 9d. in cash. The bill was expressly drawn up as payment for goods supplied Wheal Reeth. It was negociated, but dishonoured Battens failed, and plaintiffs received on it 300*l.* from their estate as dividend, without prejudice; and this action was brought against the adventurers through Higgins, the nominal defendant, to recover the remainder. The defence was that, in choosing to take a bill of a third party, they had exonerated defendant; also that in dealing with Battens, plaintiffs had misled defendant; or, fourthly, that their lien on the machinery had been forfeited to defendant.—The Vice-Warden concluded by stating that the plaintiffs had a right to a decree for payment of 200*l.* on this petition. It was clear that a creditor on simple contract, who received his debt in a negotiable security, to be applied when matured to the payment of that debt, consented to wait for payment till such security be matured, according to its terms; and if the security be unproductive, the taker of it

he having duly performed the implied condition on his part, had his remedy revived against the debtor. In being paid by BATTENS, who represented the adventurers, they were answerable for any default. If the taking such an acceptance had given the mining creditor any advantage against his co-adventurers, they could not complain; for they were not bound to pay him. It did not give him an advantage over the other mine creditors who were not adventurers; for he would receive nothing from the sale of the machinery until those were paid in full. In this case, he could see no objection to the petition, and the prayer as regards payment. He, therefore, decreed that payment of this debt be made on or before the 25th of March next; the costs to follow the event.

THE BURRA BURRA MINE, AND ITS ORES.

The copper mines of South Australia probably belong to the formation known in other countries as that of copper slate. The mineral districts of the colony are principally a stratified rock, which is immediately contiguous in order to the earliest plutonic formations; this consists chiefly of a very coarse-grained granite, in which the several component parts, granite, felspar, and amphibolic substances are seldom encountered in a conglomerate state, as is generally the case in Germany and England, but in larger or separate deposits. Long reefs of quartz are discovered without any other component parts; and as from the earlier decomposition of the other masses it frequently displays itself, many have imagined that they have discovered a lode. The appearance of the amphibolic substances is no less delusive, having all the appearance of corroded lode-stone. In the earliest igneous masses, silex, lime, and allumina, are the principal substances, which is the case in the first succeeding clay-slate rocks; with this peculiarity, that frequently one of these component parts predominates so much, that the quartz would seem to convert the clay-slate into a hornstone, or the lime appear a limestone, so that it might be supposed there was a limestone hill; closer investigation has shown that this has only been a bunch or nest. In a country similar to this the Burra Burra lode is situated, and the following hypothesis has been advanced with regard to its origin:—The lode has a direction from south to north from the Burra Burra to the Sydney Mine; in this direction a large subterranceous fissure must have formed itself, in order to allow the ascent of the copper exhalations for subsequent sublimation; had these risen immediately, the metallic veins which were formed at a later period must have followed the same direction as the lode itself. The contrary is the fact, as they have all a course which cuts the main direction of the lode in a more or less acute angle; they must, therefore, have been deposited over the first main fissures—another mass of rock with cross fissures, which have led the exhalations of copper away in another direction, crossing the lode. Although the ore occasionally appears in bunches, it may be said that almost the entire mass of the lode is pervaded with copper. In confirmation of the opinion, that the copper substances have penetrated from below into a superincumbent rock, there are in many places undisturbed strata of clay-slate, into which thick veins of different copper ores, even with native copper, have penetrated. The deduction to be arrived at from this is, that the copper exhalations ascended from out of one common fissure, were then carried off in separate cross fissures, and became sublimated in a superincumbent stone. Some of the veins met with here are of greater size than lodes elsewhere. The ores are comprised under the following varieties:—Native copper, red oxide of copper, blue carbonates, silicious copper, and iron. The native copper is known here under the name of *malleable* [this, however, is an incorrect definition, as all native copper is malleable]; it is usually surrounded by some oxide of copper, and is particularly abundant in the black ore. The crystals are very rare, sometimes they occur in cubes, and cubes with truncated corners; its lustre is more like bronze, and does not acquire the copper red tint until after exposure to the atmosphere. Red oxide is found in pieces several feet thick, but seldom in blocks quite pure: the crystals are generally octohedral, with several deviations from the original form: when first taken out they are of a bright red colour, but exposed some time to the air they assume a steel grey lustre. The crystalline grained has almost the appearance of a fine specular iron; it is generally surrounded by an impure mass of blue carbonate towards the outside—ores of this variety are occasionally found with a laminated texture. The compact red oxide of copper is without metallic lustre; the earthy red oxide has a deep tint, like cinnabar, so that it would be scarcely taken for copper. The malachite, or green carbonate, is one of the favourite ores at Burra Burra, easily dressed, as, in the washing, the smallest particles are perceptible: there is a larger lode of this than any other in the mine. In addition to crystals of this variety, which are known by their having a glossy lustre, and being quite opaque, there are the fibrous, massive, and earthy malachites. The blue carbonate is mostly crystalline, and constitutes a large portion of the produce of the mine; of this variety there is the crystalline grained, the massive, which is often of a sky blue tint, and the earthy. The silicious copper, or chrysocolla, varies from 1 to 28 per cent.; the rich is generally dark green, while the poorer kinds are of a light blue tint. The yellow ore, copper pyrites which is found in nearly every mine in Europe, does not exist here; black jack and iron pyrites are likewise absent. A brown ironstone exists in nearly every transition down to the yellow friable hydrate of iron oxide. It is generally known by the name of black ore; it is considered of great importance, owing to the large quantity of copper which is mechanically mixed with it, mostly in small veins or strings; it is this which surrounds the largest pieces of native copper, and, in more ochry portions, surrounds those large lumps of fine grained crystalline oxides of copper, which are often impregnated with crystalline malachite, and denominated by the miners, gossan. In its purest state it contains oxide of iron, 89·68; water, 10·32; is as black as pitch, the fracture striated, and of a saponaceous lustre. In Europe it occurs also in several places, in the neighbourhood of red oxide of copper, and even undergoes one of those particular kinds of transformation which are known by the name of pseudo-morphous. Besides these, there are traces of carbonate of zinc, and of non-metallic substances, here and there fine white transparent flakes, which have the inclined rhomboidal system of crystallisation, and have been assumed to be gypsum. The formation of malachite is, however, the most extensive at the Burra Burra Mines, and from the different and few varieties, it will be seen how easy and economical the reduction of the ores may be effected.

MANUFACTURE OF STEEL AND GAS BY ONE PROCESS.

Mr. Wm. Dick, of the Veterinary College, Edinburgh, has just obtained a patent for improvements in the manufacture of steel and gas, enrolled Feb. 22. The patentee's invention consists in the manufacture of steel and gas at one and the same time. His process is as follows:—Heat an ordinary gas retort (that made of fire-clay preferable) to the temperature required for the manufacture of gas, and having placed a layer of small coke on the bed of the retort, lay thereon the bars of iron to be converted into steel: these bars may be of any length, but it would be better they should be of the same length as the retort. Then charge the retort with coal, as in the ordinary method of manufacturing gas; work off each charge in the usual way; and when the coke from each is successively withdrawn, turn over the bars of iron, so that each part may be fully submitted to the cementing action of the coke. Continue the process until the required degree of cementation is obtained, which may be ascertained by testing the bars in the usual way, by withdrawing them from the retort, cooling suddenly, and breaking them, when, by the appearance of the "pith," it will be ascertained whether the conversion of the iron is complete. The patentee does not claim the manufacture of steel by means of carburetted hydrogen gas, as that is not new; but he does claim the manufacture of gas and steel at one and the same time.

RAILWAY IMPROVEMENTS.—A mode of connecting railway carriages has been invented by Mr. Melville, of Upper Harley street, a gentleman to whom we already owe the introduction of "auxiliary steam" in navigation, by which the carriages will not only be prevented from falling, in the event of an axle or a wheel giving way, but the carriages will also be retained on the line, as, by a very simple addition, the vertical movements of the carriage can be restrained within any desired limits. An accident appears to have occurred recently on the Birmingham and Derby line, by the failure of the wheel of a waggon, which, had the connecting link referred to been in use, would in all human probability have been avoided. The train appears not to have carried any passengers, and consequently no lives were lost, although there was a great destruction of property; but, if it had been a passenger train, going at the same speed, the probable consequences are too fearful to contemplate. Similar accidents may, however, occur at any moment to carriages on *four* wheels; and it is most desirable that for the safety of travellers by railway, that the invention alluded to, or a better, if possible, for a similar object, should be adopted.

SPANISH CORRESPONDENCE—ASTURIAN AFFAIRS.

OVIEDO, FEB. 20.—The glorious uncertainty of law prevails here, as well as at home, where we conceive an especial privilege resides in that respect. Up to a recent period, everything in the Anglo-Asturian business has been in favour of the new speculators. But "there is a tide in the affairs" of companies, as well as in those of the individual man. The new agent, Mr. Barry, who came to succeed Mr. Lambley, had obtained a decree of the *Juez de 1a Instancia*, at Pola de Lena, establishing his powers, and ordering an *entrega symbolica*, or delivery of possession in bulk, which had the effect of handing over to the agents of Mr. Carlos Sarqui the old company's property, without a detailed inventory. This decree has been reversed upon appeal to the *Audiencia* here; and the matter is remitted to the *status quo*. Those who are acquainted with the progress of a contested inventory in such a concern, will concur with me in saying that *probably* the 1st of January, 1852, will see the termination of it; whilst there has been lately received here a Royal order that may have the effect of postponing indefinitely that consummation. It has not been published or issued to the parties by the civil governor. I have had, however, the opportunity of a perusal by the favour of one of the agents who had received a copy from Madrid, through the influence of a *distinguished* personage; therefore the following abstract may be relied on. Although the publication has been withheld, both parties are apprized of its tenor, for one party is as much dejected as the other is elated. There is apparently an effort to evade an open condemnation of the proposed reorganisation, shifting the responsibility of the *coup de-grace* to the legal tribunals; yet the terms are sufficiently adverse to show that the Government has rejected M. Sarqui's petition, and that there is no legal pretext for countenancing the new organisation against a legalised opposition. I have been told that the agents of the first liquidators consider that the terms will enable them to supersede the new administration. It is hardly possible to suppose that the agents of the Duke de Rianzares, in the face of such difficulties, will complete the purchase by paying the residue of the purchase money, 14,000*l*. The result may be that they will decline the completion of the contract, if not wholly, at least till there is a sufficient sanction of their new statutes, to which, no doubt, a determined opposition will be offered.

The following is an abstract of the Royal order, signed by the Minister of Commerce, Instruction, and Public Works (Fernandez Santiago Negrete), dated the 2d Feb., 1851. I must be relieved from any responsibility as to style or argument; for I think my abridged version rather an improvement—the original being, as usual with our governmental compositions, confused and illogical:—

It recites the petition of M. Granda for several shareholders, alleging that the contract with Senor Lillo was in violation of the law, the Royal decree of dissolution, and the statutes of the company, and praying that the liquidation may be carried out; recites also the petition of Don Carlos Sarqui, and another on the part of Don Leon Lillo, praying that he might be authorised to proceed with the working of the mines, and with the other business of the enterprise ceded to him; and that it should be declared that there is no room for deliberation in this business (*que se declare no haber lugar á deliberar sobre este asunto*, which, freely translated, means that the contract be definitively confirmed). It takes into consideration that the transfer itself was competently in the hands of the liquidators, particularly as there was the sanction of a resolution of the shareholders; but as to the questions respecting the manner of effecting it, such as the alleged prejudice to the interests of the partners by its conditions, or the objection on account of its not being executed with all the formalities pointed out in the statutes, it does not appertain to the Government to decide, but to the civil tribunals; that the duties of Government are limited by article 44, of the *Reglamento*, 17th Feb., 1848, to ascertaining that dissolved companies conclude their liquidation, which does not interfere with the judicial exercise of rights by parties in respect to their property; that this view does not preclude the allegation as to the illegality of the contract, according to the law of public companies, and the Royal order of dissolution, in not being a simple sale, but a project of reorganisation, in which some of the shareholders are drawn in against their wish; for be the provisions of that arrangement what they may, it is certain the old company is dissolved by the Royal decree; and if, as is the case (*y si bien*), the individuals of which it consisted have a right to receive a participation in the new speculation as the complement of the price of their property, handed over to the person commissioned to reorganise, it can only be in strict conformity with the law of 28th Jan., 1848; *so that the intended company will not obtain its authorisation, unless all its formalities and requisites shall have been complied with*; and in that case, one of the conditions of his contract would not be fulfilled on the part of Lillo, and would require an indemnification to the proprietors for the part of the value of its property unsatisfied, or the contract would be rescinded, as the same party (Lillo) suggests (*segun manifiesta el mismo interesado*). It orders that leaving the said questions in dispute already raised, and those respecting the liquidation to the decision of the courts of law, the civil governor be charged to take cognizance of the state of liquidation till all its results shall been cancelled, as required by the said article, 44; and when the case shall arrive of the intended reorganisation, he will exercise the strictest attention (*mas esquisita vigilancia*), in order that he may prepare the proper despatch (*espediente*, required by article 12 of the *reglamento*) in complete subjection to the enactments of the law of public companies with shares, and its corresponding regulations.

INAUGURATION OF THE GIJON AND LANGREO RAILWAY.

On the 12th inst. we had a grand affair at Gijon. Three days after the inauguration of the Aranjuez Railway, our authorities sagely determined to get up a parody of their own, and the farce came off with great *eclat* on the day I have named. Lieut.-General Geronimo Valdés happens to be the chairman of the directors, and, with his colleagues, assumed it to be their turn to get up an inauguration on a small scale of the Gijon and Langreo Railway, just as an amiable old lady, who has been sterile all her life, offers up *te deums*, and prepares festivities upon the suspicion of being *enciente*. The railway (?) in question is not much further advanced, as to all purposes of utility, to a state for inauguration than its projected neighbour, the Royal North of Spain—*gigantic myth!* A few miserable labourers have, indeed, been employed to the present time on a few miles of a level out of Gijon, to keep up the delusive appearance of engineering operations; although I am told (for I have not been over the line of late), that not one of the *engineering difficulties*, of which there are not a few, has ever been touched. But this is the way things are done in this unfortunate country. There is probably some job to be perpetrated, on the pretext of this make-believe opening of a so-called railway, in association with whatever is in hand respecting its metropolitan relation, and the *inauguration* is, accordingly, got up.

All the notables, male and female, in this district, where that commodity is exceedingly scarce (and to atone for the paucity thereof), the shareholders, as many as there are, their wives and daughters, and all others who might be interested *in futuro* as such, to the number of 200 or 300 (the *Asturiano* says 500), were invited. At 12 o'clock the *cortège*, consisting of the civil governor mayor, and municipal authorities, made their appearance, and were received by the chairman and directors of the company Do not mistake this designation; here chairman, directors, shareholders, sometimes mean things far different to what they do with you. In this case, if you believe report, the actual advantages or disadvantages, and attributes of chairman, directors, and majority of shareholders, are centered in the exalted person of the Duke de Rianzares, whilst others bear the ostensible honour of the name. Be that as it may, Gen Valdés, *as* chairman, with his associates, and the engineer-*in-chief* (of a seven league line, if ever it be finished), Senor Alduayen, did, in fact, receive the authorities with the *pavillon nacional ondeando*, music playing, and shouts, with *fire-works* in the middle of noon day. The usual grandiloquent palaver being exhausted, the *ceremony* commenced; some 100 or 150 yards of rails having been prepared, and a *waggon* improvised, which was a truck decked out with yellow damask silk, and other gaudy trappings, the civil governor, and General Valdés, commenced to lay the rails, by laying on with a pair of ornamented hammers. Another salutation of waving flags, music, and rockets out of time, now took place, and the hammering was successively taken up by the mayor, military governor, parish priest, naval commander, and all the other authorities. The carriage was then rolled along the rails, the *highest estimate* of their extent being 200 *varas*, but in my calculation half that number of British yards would have covered the ground. The proceedings, as in all similar events, closed with a *magnificent* breakfast, of which it would be an outrage on hospitality to complain.

NAVIGATION OF THE GUADALQUIVER.

Although it does not come within the range of information from this province, perhaps it will not be amiss to inform you of a project now in progress in Andalusia, which was first proposed here in connection with the Anglo-Asturian Company, and with respect to the navigation of the Nalon, from a point not far distant from Mieres, by the same individual who now brings it forward, and who was formerly one of that company's engineers.

Mr. O. C. Dalhousie Ross is now at Cordova, with the view of effectuating the navigation of the Guadalquiver from that city to Seville. Many years ago, it was proposed to render this river navigable in the ordinary way; but one of the influential and pious ecclesiastics having urged that the Almighty never intended that it should be so, otherwise he would have made it a navigable river from the beginning of the world, the argument was so convincing to the sapient authorities, that the audacious and irreligious originator of the scheme was condignly humbled by its indignant rejection, and scarcely escaped the fate of Gallileo. But the perseverance of British enterprise is above all consideration of such reasoning on divine or human motives; and we have Mr. Ross, in spite of like *ir-rational* prejudices, making his way (and great way he has already made) in his original project.

The *Diario* of Cordova, in its Numbers of 28th March and 11th inst., gives us some very favourable notices of the matter. Of the 14th, I have a letter from that city, informing me that Mr. Ross, having surveyed the whole line of the river to Seville, and ascertained the practicability of the measure, attracted vast crowds to the river on that day. He turned his Mackintosh cloak into an improvised boat, drew a pair of paddles from his pocket, embarked on the river from the Alameda del Corregidor; and, after many evolutions on his frail support, to the admiration of the assembled multitude, he returned to his point of departure, amidst the plaudits of the fair and brave. Mr. Ross's plan is to construct pontoon rafts of hermetically closed metallic cases (copper and zinc), 1 ft. square and 5 ft. long. These are joined by a bar of wood, running through rings, or eye bolts, upon one of the faces, the number of cases being determined by the breadth allowed for navigation; at the same time, they are capable of being disconnected, and passed in succession through narrow parts. Wine, and other liquors, and commodities liable to be injured by exposure, may be introduced into the cases by apertures, which are rendered air-tight by the usual fastenings. A load of six times the weight will immerse the raft 9 in.; and of eight times, 11 in.

On the 15th the Committee of Agriculture were to have taken up the examination of the project; and I undertand it is supported by an enterprising member of the committee, named D. Ferdinand Amor. The first trial trip was to take place on the 16th, to extend from Cordova to Seville.

It would be very desirable if the project be feasible, as there are many rivers which could be made the high road of commerce and industry, if such a means of locomotion could be established here.

THE CARDIGANSHIRE MINES.

The great importance of the mines in this district is daily becoming more apparent. If there is wanting any further proof of their increasing prosperity and remunerative capabilities than the regularly published notices of their progress, strong evidence will be found in the fact of there being now hardly a mine of even moderate promise that has not been taken up. Notwithstanding this, Cardiganshire has still plenty of room for the (it is to be presumed successful) investment of capital; for in addition to the mines already enumerated, which are apparent, either by their being now, or having been formerly, in work, there are 92 discoveries of lead ore, which were known more than 100 years ago, but of which it is remarkable that three only have as yet had any trial made of their value. These three are Cwm Sebon, Cefn Bruno, and Llwynmalees, and it cannot for a moment be doubted that, among so many chances remaining, there must be other prizes of at least equal worth.

It will at first sight appear strange that a thing so important as a discovery of mineral treasure should be neglected; but it will be so no longer when it is recollected that, in most instances, neither the farming tenant nor even the owner of the land could formerly reap any benefit from it. Until the passing of the Act, the 6th of William and Mary, investing mines in the proprietors of the soil, it happened, if the value of the ore rendered it what was called a Mine Royal—that is, one in which the gold or silver was "more worth than the base metal spent in the refining it," that the Crown stepped in at once and secured the dues, calling them royalties.

In these cases (and most Cardiganshire mines are too rich to have escaped the Royal prerogative) no freeholder would take much trouble, to say the least of it, to make known the existence of mineral deposit in his land; whilst, for a similar reason, he himself would in his turn be kept in ignorance of all such, as far as possible, by his farm tenants, who viewed with the greatest dislike any operation which tended to injure the surface of the ground, in which alone they considered their best interests to lie. Such being the state of things contingent on these discoveries at that period, and the same conditions still prevailing with respect to lords of manors, who have a right to all minerals, of whatever value, on waste lands, of which this district is chiefly composed, it can be no matter of surprise that so many discoveries should have for so long a time been thus suppressed.

Numerous, and consequently important, as these are, it would be folly to assert that the 92 embrace all of the sort which have from time to time been seen, because, with the exception of Llwynmalees, these are entirely confined to that small portion of the county which was then supposed to constitute all that was metalliferous. Viewed in that light, it would comprise a space of about fifteen miles long by six broad; but modern investigation has proved that this mineral field extends from the Dovey on the north, through the whole county to the south, and far into the adjoining one of Carmarthen as well, where are situated the very productive mines of Nant-y-mwyn, and many others. The whole of this is a line of mountain, which may very properly be called the Plinlimmon range. That part in which the Lisburne Mines are situated is called the Tregaron Downs, which extend within the limits of the county at least 20 miles further to the south, maintaining a similar height of from 1000 to 1600 ft, and showing a geological and mineralogical surface in all places identical with that small tract on the north, which has hitherto alone occupied the attention of the miner. But mining research is already taking a wider range, and this long-neglected portion will also have its turn. In it have been found the richest ores; for instance, Llanvair, lately giving large profits, and Rhydtalog, an old and almost forgotten mine, yield more than 100 ozs. of silver to the ton of lead. Strings of ore in abundance, never yet touched by pick or powder, may be seen traversing the beds of the mountain streams; and discoveries of greater magnitude have recently been made in several places, which are still left to be prosecuted. Of these, one of the greatest is at Bryncrach, near the village of Pontrhydvendiged, where a large and florid lode is apparent, containing ore on the very surface for hundreds of fathoms in length, the value of which is unknown. At Ystradmeuric, close by, is a course of ore scrupulously concealed, and in other places are many more under similar circumstances, which can be pointed out.

Nothing, therefore, is more true than that mining operations are merely in their infancy here—not only as regards the amount of produce extracted from the mines now in work, but more particularly in the adoption of new trials on the numerous indications of mineral deposit not less valuable, which are known to exist on the as yet unoccupied other parts of this wide district.—*Feb.* 27.

CALIFORNIA.—The news received during the week is decidedly better than that published in our last week's Journal. It appears that the absence of rain had interfered with operations in the dry diggings, where a certain supply is essential for washing, but the account of fresh discoveries, and especially of the prospects of quartz mining, seem as favourable as ever. New and extensive "placers" have been found, according to various accounts, between the Yuba and Feather Rivers, and also between the American and Bear Rivers. A party which had started in search of the reported extensive silver mine is alleged to have succeeded. As regards the quartz mining, several companies appear to have completed their machinery. Stockton and Aspinwall have an establisment surrounded by dwelling houses, blacksmiths and joiners' shops, &c., and their machinery is said to be far superior to any yet put up. Another firm, Palmer, Cooke, and Co., have also, it is alleged "made large outlays of money, and have thus far been well paid by the rich harvest they have extracted." Several other companies are also working at a place called Burn's diggings, where the veins are described as the richest yet met with. "The gold is found in the side of the mountain, in what appears to be decayed stone, and pays as deep as shafts have been sunk." Respecting one undertaking, there is likewise the following paragraph in the *New York Courier and Enquirer*:—"We have heretofore expressed the opinion that the wealth of the California gold region is yet to be developed in her rich quartz veins. Evidence of this fact may be had at the office of the Rocky Bar Mining Company, a few doors below us, in Wall-street. We saw there gold in quartz which is almost as valuable as the pure metal—a single lump, some 6 inches square, worth $800. We are informed that the machinery of the company for crushing the quartz will all be up by the middle of May. It is pronounced to be the most powerful ever manufactured for the purpose. When in operation it will crush 100 tons of quartz per day, and the yield to the company, at 20c. to the lb., would be $40,000 per day."

The first shipment of gold dust was in April, 1849, during which month only 75 passengers left San Francisco on their return to the Atlantic States, and the quantity shipped was only valued at $166,638. Since then the increase of both has been steady and rapid:—

Value of gold cleared outwards by steamers, from April 1 to Dec. 31, 1849	$4,560,201
Estimated to have been taken by passengers during same period	754,500
Value cleared outwards by steamers, from Jan. 1 to Dec. 31, 1850	30,010,054
Estimated to have been taken by passengers during same period	3,817,000
Amount known to have been shipped, but not cleared	7,246,000
Bullion stamped by one house, as per statement	1,570,216
Cleared outwards by sailing vessels	708,306
Taken overland and coastwise by miners from Mexico, Chili, and Oregon	7,500,000
Value manufactured into jewellery	851,520
In possession of miners, merchants, brokers, and others	6,000,000
Which amount was ascertained, by valuing the gold dust at $16 per ounce troy; to it should, therefore, be added $1 50c. per ounce, to raise it to the Mint value—say	62,717,797 5,869,794
Total	$68,587,591

GOOD NEWS FOR THE ANGLO-CALIFORNIANS.—Mr. Palmer, the eminent engineer-in-chief of Albion Chambers, who was *non inventus* on the arrival of Sir Henry Vere Huntley, the manager in San Francisco, has at length been discovered. From the American papers, it appears that he has mined through a solid vein of quartz a tunnel of the *depth* of 100 feet; he and his co-partners have been richly repaid by the precious metal which they have extracted from the ponderous rock. It has been imagined that during the gallant captain's short sojourn in "El Dorado," when it may be remembered he traversed the country to discover the engineer and the locality of the lithograph, that neither could be found. As Mr. Hoffman (Colonel Frémont's agent) denies that the Santa Vaga Company have any lease of the Mariposa, it must be considered a stroke of good fortune that Mr. Palmer has shown, as he no doubt will immediately inform the company, where their property is situated, and enable them to explore the olden minerals, as well as the new discovery to science which Mr. Palmer communicated in his first report. It has been supposed that since his unaccountable absence the engineer-in-chief has been underground, exploring for the benefit of his provincial friends, and now only emerged into the light of day, consequently was not aware of the manager's arrival—unable, from the continual darkness, to discern the difference between night and day.

The Trinidad advices state that the representations of some of the adventurers who had returned from the gold districts of Upata were by no means encouraging. Although the gold was found almost everywhere, and by everybody, it was in such extremely small particles that but a very trifling quantity could be collected in a day by the rude machinery at present available, 50 cents. being about the average gain per diem. Whatever improvements may be made in the machinery, the mere diggers stand no chance, unless they can discover the mine from which the small particles of gold they have been collecting hitherto is brought down the Yururay, or some one of its tributary streams; and even then they may be blended with quartz rock, to fragments of which many of the former samples were found to adhere.

Original Correspondence.

SAFETY-VALVES, ÆROLITES, &c.

SIR,—Dr. Murray will find a simple explanation of the necessity for employing two kinds of metal in the construction of safety-valves in their very different ratios of expansion under the same temperature, especially iron and brass, which are applied to that purpose. The gagging is further promoted by the much greater heat received by the spindle, or other enclosed parts of the valve, which are kept at the highest pitch; whilst the circumference of the seating is exposed to the cooling air. Cold affusion on the centre of the valve will keep it free, on the same principle that hot water applied to the neck of a glass bottle disengages the stopper.

If some falls of earthy matter can be accounted for by an atmospheric congestion of dust, how is the theory to be applied to the formation of the immense masses of metallic iron which constitute the majority of these moonstones? That of Zacatecas, I believe, exceeds 20 tons in weight; and there are numbers of approximate dimensions. We know of no chemical action by which the peroxides and protoxides of our moist planet could be reduced to metal in an atmosphere of oxygen; nor am I aware what electric action would solidify earthy dust, except fusion; and the most earthy of the meteorolites, *interlaced* as they are *with a network of iron*, exhibit no signs of internal fusion. The fusion is on the surface *still hot*, and evidently arises in the conditions of the descent. I do not see we are justified in assuming that, because the scale of magnitude from the sun downwards of the revolving bodies of the planetary system has been visibly traced no lower than a planet of about the superficial extent of the British empire, there are no permanently revolving bodies of smaller size. On the contrary, analogy is in favour of the belief that there may be an immense quantity of unrecognised matter dispersed betwixt the known planetary orbits—the retardation of any portion of which, by contact with our atmosphere, would inevitably occasion its descent; and, if an easily oxidisable substance, its visible combustion. Great difficulties, towards explaining the origin of these bodies, have arisen in the abuses which have been made of Sir Isaac Newton's calculations. As the basis of his method of fluxions, he assumed an hypothesis, just as the definitions of a point and a line are assumed, or of parallel lines meeting in infinity. The whole of them are physical impossibilities, but they serve the purposes of calculation; and Newton, by the aid of his hypothesis, ascertained correctly the law of gravitating forces. He only pretended to discover a law, and admitted, as every great mind must do, "that he knew nothing;" but his followers took up his hypothesis, contrary to the express signification of the word, as a physical fact; and we have had lecturers for above a century twirling balls round their head, tied to a string, as an exact illustration of the centripetal and centrifugal forces which actually *retained* the planets in their spheres. Learned volumes have been written to prove the existence of God, based upon this *hypothesis*; and the infidel mathematician has made it an equal arena for his scepticism. Calculations, little more than a century old, were believed to have searched out the Almighty and the Infinite, and revealed Him in the very act of creation; and, having passed all the links of second causes, discovered a point in which He acted, not by intermediate means, but by direct will in launching our orbs upon the celestial bowling-green. All which presumptuous philosophy, we can only say, is very worthy of the petty capacity of that trumpery creature—man, who always believes himself to be doing wonders in his little way; and, like the fly on the chariot wheel, is lost in admiration at the dust he is raising. The consequence of these notions was, that anything much smaller than our own earth it was considered unworthy the dignity of the Almighty to jerk into space. *We*, of course, were large enough to demand that special act; but the existence of the little travellers could only be accounted for by the bursting of one great one after it had been projected. The discoveries in magnetism have opened a new field of speculation for our puny faculties to run riot in; and thus far at least we have attained, that this is evidently the power whose laws Newton calculated, and acting, not as his followers maintained from a solitary impact, but by constant progression, similar to the forces which guide all other operations of matter. We are, in truth, now much nearer to the vortices of Descartes than the impulses of the school of Newton. They served to eliminate approximate mathematical truths; but their outrageous incoherence with physical fact is incontrovertibly demonstrated by Mr. Hopkins in his able volume. When, therefore, it has ceased to be necessary to assume that each particle of revolving matter had its separate and independent discharge into the centrifugal whirlpool, there remains no difficulty in receiving the reasonable analogy that space contains a great deal of matter, besides that which has been aggregrated into the visible planetary globes. The fact of the iron of the meteoric masses being invariably associated with its magnetic sister—nickel, seems to point to some very different fountain than our atmosphere. But man is essentially a theorising animal; and, like the balloon, the less ballast is in the car the more rapidly does the theory rise. Heighth and depth become nothing to the mind once disencumbered of the mortal frame of physical fact, as witness the theory which has lately illuminated your pages, respecting 2000 tons of sulphuret of lead having been squirted up in fusion several miles through a crack in the earth. To revive this old notion of the origin of metallic veins, in the face of electric knowledge, is like resuscitating Stahl and his phlogiston to overthrow all the discoveries upon oxygen and its compounds—certainly involving the necessity not to *learn*, but to *unlearn*, science "step by step." Where are the sulphur mines of Cornwall? for every crack and crevice of her soil should be teeming with the sublimated deposit from the fuming masses of her innumerable squirt cracks. I fear they are as unknown to commerce as the lead mines of Etna. The vapour *must* have penetrated, unless, indeed, the lead has glazed the walls of the lodes as sound as a pipkin—whence, perhaps, the name of Pentire *Glaze*. Even then the interior of the pipkin would have been filled with sulphur; and I have never heard of such saving work as 100 fms. of sulphur, at 20*l.* per ton, before getting to the metal. What a splendid opportunity of cross-cutting the whole county from sea to sea will be afforded by cross-courses of flour-brimstone when they are discovered. They are, perhaps, only a little deeper. As the natural order of things was inverted, and the lead swam, perhaps the sulphur sank, and is all distilled downwards; and "the deeper you go, the better it is." I cannot account for the rise of these liquid metals so much above their level, except by calling in the aid of another theoretical animal—the salamander. Probably, during their fiery pastimes, they lashed the metals up the cracks by the force of their tails. To lead they appear to have a particular antipathy, and to have slapped it hardest; for, notwithstanding its great specific gravity, it is found higher in the geological series than any metal—iron, and some other minor metals, excepted. So also in copper lodes, which bear lead near the surface. No doubt the salamanders banged the lead out first, and then the copper afterwards. Is it not probable that the coal seams are only the scum of the cinders which were left from the coal which heated the furnace, which melted the lead, which filled the cracks on the earth that Jack built, and which floated upwards when the water came to put out the fire? Some years since, a mass of solid galena, 2 tons in weight, was found embedded in a coal seam in the Forest of Dean. As never before or since has the least trace of such mineral been found in the district, it must have been a piece which stuck to the coals and was floated up. I have seen fragments of coke out of a furnace very much *resemble* anthracite; therefore, such a process produced anthracite. Yellow mica resembles gold; mundic, yellow copper; clouds, camels and whales; green lichen, malachite; and artificial ultramarine, the native product. To the theorist this is proof of identity of formation. By parity, one man might be hanged for another because he had a similar complexion. Truly, when the alchemists held four elements—of fire, air, earth, and water—there was less complication of ignorance than at the present day. If we are to look for common sense anywhere, it is in the classes which we make so much talk of *educating*, having a conceit to fill their mouths with all the gibberish of our confused and artificial systems. I trust the squirting will not recommence when the theorists are at the bottom of the mines, though even this catastrophe might tend to the promotion of *science*. Brother theorists discovering their calcined bodies floating on the surface of the "matte," might find a hint to develope a brilliant speculation on the origin of man by volcanic projection. Had a newspaper been their companion in the deep, its ashes might suggest the origin of printing without a reference to the Chinese. Might not Doctor Ehrenberg's theory greatly assist the geologist to an explanation of boulders? Suppose an immense whirlwind of dust when the earth was set in motion, it might have continued to rain stones for several centuries; and the pluviolith would be added to the other geological epochs. The great slaughter occasioned amongst the fishes full of roe would account for the vast deposits of oolite; and, of course, when the deposits were elevated, the boulders rolled off again.—DAVID MUSHET: *Feb.* 24.

ERRATUM.—In the Journal of Feb. 15th, 29th line, 2d par., for "find" read "fill."

ON THE USE OF CAUSTIC LIME, INSTEAD OF LIMESTONE, IN BLAST-FURNACES.

SIR,—The frequent, almost weekly, observations in your valuable paper upon the use of lime, instead of limestone, in the blast-furnaces, induce me to furnish you with particulars of the use of lime for a long period upon our blast-furnaces at Abersychan—the result of which may be fully relied upon. In August last, our manager, in order to work off some limestones of an inferior quality, and condemned as useless, instructed me to burn some of them in one of our idle kilns, and then to use them in the furnaces in the form of lime. I commenced putting the lime into No. 7 furnace, one charge out of four, and gradually replaced all the limestones by lime. My burden of limestone for iron of good quality was 4 cwts.; I now use of lime 2 cwts. to the charge; and my furnace "burden" has borne an increase, without deterioration in the quality of iron produce, of from ¾ cwt. to 1 cwt. to the charge.

On our No. 3 furnace, I use 1¼ cwt. of lime where I used to require 3 cwts. to the charge of limestone; and the furnace burden is increased in proportion. I find the furnaces work in every way satisfactorily since the application of the lime, and do not observe that the use of lime in any way prejudices the quantity or quality of iron which they produce.

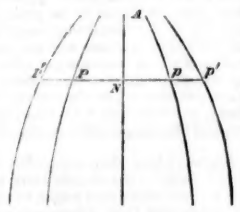
Abersychan, Monmouthshire, Feb. 26. THOMAS HOWELLS. Furnace Manager.

ON THE FORM OF THE INTERIOR OF BLAST-FURNACES, AND ON THE DESCENT OF THEIR CHARGES.

SIR,—In a former Number of your Journal, your able correspondent, Mr. David Mushet, pointed out the importance of ascertaining the best form for the interior of the blast-furnace. His observation led me to consider whether it would be possible to bring exact science to bear upon the question; for, if this could be done, *even approximately*, some steps in advance would be made (it being remembered that the proper use of exact science is to enable us to think with precision, and to see *where* practice is to be improved, not to quit its guidance, or to dispense with the limitations which it imposes). I accordingly made the attempt, by a method which I have referred to below, as some of your readers may wish to work it out for themselves, divesting, however, the subject of its abstract form, as far as it is possible to do so (for, after all, the relations of "quantity" *must* enter). The following gave my results. I assume the fact that all the heat above the tuyère is (as I pointed out in your Journal of the 18th Jan. last) heat of *conduction*. This granted; the form and dimensions of the furnace will affect—

1. The degree of temperature at any given altitude.
2. The temperature and the pressure of the gases there, in their ascent from the tuyere.
3. The rapidity of the descent of the charges.
4. (But indirectly, and subject to certain restrictions) the consumption of fuel.

I do not mean to imply that these effects are not secondarily related to each other; I distinguish them only primarily, as results of one common cause: they have their mutual actions and re-actions, but these can be taken in to account afterwards, without in any way vitiating the conclusions at which we may arrive; they are "perturbations of the second order," to be neglected in a first approximation. The temperature of the materials at any point will diminish with the distance of that point from the tuyere; the temperature and the pressure of the gases also will be less from the action of the less heated materials upon them. These are the effects of *altitude* only—*of distance from the "focus of heat."* The expansion of the form of the furnace upwards favours that of the gases; and, as they cool, if they contain carbonic acid in notable quantity, the cooling will tend to limit the absorption of further carbon, and so indirectly save fuel, as wide throats are said to do. But the most important effects are the diminution of heat upwards, as dependant on *altitude*, and the slow or quick descent of the charges, as occasioned by the *varying width* of the interior. For the present we will consider the altitude as fixed, and will regard the change of width only. The consumption of fuel depends on the natnre of the fuel itself, and on the absolute weight of air injected in a given time. These being assumed as fixed, it is obvious that as much fuel will pass in a given time through any section (P, p) of the furnace, as is withdrawn by combustion below in the same time. The smaller, therefore, this section, the more rapid must be the passage of the charge through it—if the mass be continuous—in other words, "the rapidity of the descent of the charge at any point is inversely proportioned to the size of the section (P, p) at that point." But this section is proportional to the square of its semi-diameter, P,N; "the rapidity of descent is, therefore, inversely proportional to the square of P.N." It would be slower, for example, if P were to take the position P^1. We have up to this point omitted the effect of the charges of ore, &c., in accelerating the descent of a section, P, p. If the space occupied by any ore be assumed as proportional to the whole area (which is not far from the truth), the effect of combustion below must be more rapid in proportion; so that, by increasing the charges of ore, not only is the heat lowered, but, by the more rapid descent, less time is allowed for cementation. We ought, therefore, to expect "white-iron" from a surcharge, and that we know is its effect. The ground is now cleared a little for us to see our way.



The form of the interior of the furnace depends on the relation subsisting between the lines A, N, and N, P; while the rapidity of the descent of the charge depends on the variation of N, P. By properly adjusting this relation, then, we can, as it were, detain the charges in the upper regions of the furnace within certain moderate limits, as long as we please. If we wish to detain them very long, we must do one of two things—either let N, P, increase rapidly for a given increase of A, N, or reduce the consumption, in a given time, of fuel down below, Now, the duration of this passage of the charges through the upper parts of the furnace is of the greatest importance. It is there that the ores are gradually deprived of their oxygen by the action of the carbon and of the carbonaceous gases, and are cemented with carbon preparatory to the smelting process below. The heat suddenly becoming too great, might arrest the whole process of cementation. For example, the magnetic ore at a red heat is unchanged; but at a cherry-red heat is fused into a glass, and then becomes very difficult of cementation and reduction. It must be, therefore, an object in treating it to keep it between a red heat and a cherry heat, until it is freed from the peroxide, which, with the protoxide, forms a fusible compound. The form of the furnace must determine this transition; whether the ore is to pass through 10 feet from a red heat to a cherry red, or only 5—whether the iron is to be white, or mottled, or grey, or to contain much, or little of various impurities—all will depend *(ceteris paribus)* on the *time* which the ore passes in those purgatorial regions, which time we have seen is closely connected with the form of the interior. We have hitherto abstracted from the nature of the fuel and the blast—of these, the first by the degree of its density and its compactness, and the second by the rapidity of the combustion, and both by the intensity of the heat generated, will determine the degree of heat at any altitude. Even the season of the year, or the climate, will affect the working of the furnace.

To resume: if it be asked "what is the best form for the interior of a blast-furnace? the answer must be, "*It is wholly relative.*" It depends *mainly* on the following elements:—

1. The density and heating power of the fuel.
2. The blast.
3. The nature of the ores.
4. The fluxes used.
5. The product required.
6. The climate.

The slightest inspection of these will at once account for the irregularities in the working of blast-furnaces; for, except the fifth, there is not one which is not subject to almost daily variation.

I have endeavoured to render my treatment of this subject as simple as possible; but it is essentially complicated and difficult, and for more copious details, as well as more exact demonstration, I am compelled to refer to the mathematical analysis to which I owe my conclusions, leaving it to the kindness of your readers to point out my errors and correct my inferences, as the greatest favour they can do me.

January 12. FRANCIS C. KNOWLES.

P.S.—Since the above was written, I find that one of your correspondents objects to what he calls "the theory" of conduction as inadmissible, and he asserts that it would take long thus to convey heat from below. No doubt, carbon is a bad conductor, but it is not a non-conductor of heat; and, were the case as put, the heat communicated by the ascending gases is still heat of conduction, as opposed to combustion, and was so treated in my last letter. The really important point is, "*The absence of all combustion, except at and near the tuyères;*" but the apportionment of the heat conveyed by the fuel and by the gases between them is a matter rather of curiosity than of practical importance.

SAFETY VALVES.

SIR,—I fear the cause of steam-boiler explosions cannot be so summarily disposed of as your correspondent imagines. Such explosions are, at any rate, of constant occurrence in this country, and America, and elsewhere. My question was irrespective of explosions, and founded on the *ipse dixit* of another. For the rest, I have certainly repeatedly witnessed, both in stationary engines and sea and river steamers, safety-valves and sockets of *iron*; and I believe it is no novelty.—J. MURRAY: *Feb.* 24.

STOVES WITHOUT A FLUE.

SIR,—I had supposed that Joyce's patent, "the only stove without a flue," had long ago been consigned to the "family vault of all the Capulets;" but I confess, to my surprise, that I find it, as well as the "patent prepared fuel," as rampant as ever, and an *alter et idem* to boast, under the name of "Carman's new patent portable stove," which, in like manner, "does not require a chimney," and is, "in that case provided," also supplied with "prepared fuel." I must frankly admit that I dreamed of the olden time in my mental imagery, believed the whole to be reverie and fable, and wondered whether it indeed were the 19th century! I had not forgotten the history of the "nine days' wonder" at the Jerusalem Coffee-House, and the part that my Lord Brougham played in the melo-drama; nor had I ceased to remember the fate of James Trickey, the avowed victim to the employment of Harper and Joyce's stove, in St. Michael's Church, Cornhill, and the numbers that had nearly proved victims in Downham Market Church to the use of the same Harper and Joyce's stove. Busy thought had the fear of all these things before its mental vision; and it is not to be wondered at that advertisements with such announcements startled and surprised me.

Combustion, independent of its products, is a phenomenon unknown to chemistry, and would indeed be a novelty in science. I am now talking about *ordinary* combustion—such as that from coal or wood, charcoal or coke. These all yield, in the act of combustion, carbonic acid gas and carbonic oxide. Both of these act as narcotic poisons on the brain; the latter is the more subtle of the two. No fuel can be "prepared" so that the atmosphere may escape the dangerous contamination.

As to the "prepared fuel," the late eminent *scavan*, Gay Lussac, obtained a portion of that used in Harper and Joyce's stove, when it proved to be light fir dealwood, charred!

On this announcement, it was pretended that the said charcoal wood was *steeped in a carbonated alkali!* This, instead of mending, made the matter worse.

The use of prepared fuel proved fatal to *four individuals* in Miss Mann's establishment in St. John's Wood—rather ominous for its safe employment. Whence the said "prepared fuel" was procured I know not, nor am I careful to inquire.

Let the public be fully persuaded in their own minds my motive is philanthropic—my object the public good. As far as I am personally interested, I should assuredly shun the atmosphere heated by stoves without flues—albeit their "prepared" or "purified fuel." J. MURRAY.

Broadstone, Stranraer, Feb. 24.

METEORIC STONES.

SIR,—The only condition which seemed wanting to complete the problem of the origin of meteoric stones, as to their atmospheric source, was the apparent absence of *nickel* in the wind drift. I may quote, however the following paragraph from a letter I have lately received from Dr. Ehrenberg, which seems amply to account for its not being recognised in its usual form:—"As to the absence of *nickel* in drift sand, I have to state that I discovered plenty of the crystals of chrysolite, wherein nickel is a constituent; this will readily account for the seeming deficiency."

Broadstone, Stranraer, Feb. 22. J. MURRAY.

In my last communications—Corrigenda: arsenite—Scheele's—entozoa.

ATMOSPHERIC INFLUENCES.

SIR,—Discussion is the only road to truth; I am, therefore, naturally gratified at the interest which my humble efforts are beginning to excite, and my gratification is enhanced by the discovery that the more I investigate, the greater difference, to outward appearances exists, between the geologist and myself; but, as I proceed, I have no doubt that the difficulty of a reconciliation, at least with one section of your readers, will progressively decrease; and your able correspondent, Mr. Hopkins, has, perhaps, ere this discovered, on a perusal of No. 3, which appeared in the Journal of the 22d, that I am not "under the impression that all the limestone rests on granite, like the coating of an onion;" and although to avoid raising questions of a minor consideration, I have made use of the term "granitic base," it must be obvious, that if the principles on which the geologist starts be correct, and which I believe to be sound, no such base can exist.

A suggestion unpleasant to one in search of truth cannot proceed from an intelligent mind; Mr. Hopkins may, therefore, rest assured that all his hints will be duly appreciated, and taken in a proper spirit by me; but, in this inquiry, I think we shall much sooner come to an understanding, and elicit something rational, if the principles be first stated irrespectively of facts, and subsequently be tested by them, than endeavour to square one to the other as I proceed. One great fact is self-evident—that America is divided from Europe and Africa by the Atlantic Ocean; but inductive reasoning, which led to the conclusion that matter increases in weight by compression, tells us in equally unmistakeable language, that the first matter formed of these two continents was but one vast tract partially submerged: and if your correspondent, "G. G.," and the "generality of your practical readers, who live in the sandstone districts, are well aware that what they call sandstone, and especially the 'old red,' is from fine grain to *large pebbles*, being often a massive conglomerate of *granitic pebbles*, gneiss, *quartz*, fragments of hornblende, slate, &c." Suppose that this conglomerate of pebbles and quartz was formed before or during the carboniferous period, I can only say, that where ignorance of facts is bliss, 'tis folly to be wise.

My conclusions throughout this inquiry will be based on the assumption, that all phenomena in Nature are but modifications, or the operation of some condition of electricity, which is identified with "cold," and not with "heat"—an assumption, I think, Mr. Hopkins will allow is not utterly opposed to his principles of geology. FRANKLIN COXWORTHY, Author of *Electrical Condition.*

Canterbury-place, Lambeth-road, Feb. 24.

OERTLING'S BALANCES.—These are specially manufactured for assaying and analytical chemistry, and are so nicely adjusted, that some of them will turn with the 1-1000th part of a grain. They are fitted with palladium beams and agate knife edges, so that all unnecessary friction and rust is avoided; attached to these are boxes, with sets of grain and gramme weights; and the beam is so constructed, that it is off the balance when not in use, thereby preventing that wear and tear which renders, in many instances, those finely-adjusted balances comparatively useless. For processes of analysis, or any chemical operations, requiring accurate calculation, they are eminently useful—in fact, no chemical laboratory should be without them, and we trust we shall see them in general use. The manufacturer is a native of Berlin, who, likewise, supplies the porcelain and glass apparatus required in chemical manipulation.

NEW WATER-WHEEL.—Another ingenious contribution to the forthcoming Exhibition is the model of a vertical water-wheel, neatly made by Mr. Walker, watchmaker, Maryport, on a principle invented by the contributor, Mr. Mackenzie Wilson, Whitehaven. The invention is designed to be used as a breast-wheel, or undershot-wheel, having governor-paddles so constructed as to obviate the back water, and thereby increase the efficiency of the wheel. Its peculiar features consist in the feathering action of the paddles, the application of the balance-balls in connexion with them adjusting their gradual easy descent upon the abutments at each revolution, by which repeated, successive rotary concussions are avoided; and in the manner in which they (the paddles) are attached to the wheel, which by a simple method admits of any paddle being instantly removed, and as easily replaced, as occasion may require. The importance, in an economico-social point of view, of a water-wheel so constructed is obvious, whether for general purposes where water-power is used and is abundant, or when particularly required for mills situated upon rivers subject to be stopped by floods or tidal influences. It has not been patented.

MINES AND MINING.—No. VII.

BY EVAN HOPKINS, F.G.S.

It is very pleasing to observe the numerous improvements now being introduced in the western part of Cornwall. We find in legitimate mines, where parties look for profits from *bonâ fide* mining, and not from high premiums and gambling in shares, a gradual introduction of small waggons on rails in the main extraction levels, in lieu of barrows, towards reducing the wear and tear and cost of carriage. The produce of the back stopes, instead of being thrown down to the levels, and then shovelled into the waggons, is also retained above by means of boxed passes, and discharged into the waggons. I am pleased to observe that the new stamps are now being erected much higher than formerly, and means applied in front to dress the stamped tinstuff as it comes out of the grates, thus ensuring a greater produce at a much less cost. Much more attention is also paid to the plans and sections of the workings, so that men of business, although they may be comparatively ignorant of practical mining, may, nevertheless, be capable of arriving at a very correct opinion of the state of the mine, and enable them to distinguish between legitimate and illegitimate speculations.—*Redruth, Feb.* 27.

MINING IN BREAGE, CORNWALL.

Several mines in the vicinity of the celebrated Wheal Vor Consols are about to be re-worked. At North Wheal Vor an engine is to be erected, the necessary preparations being now in hand. New Wheal Vor, formerly called Polladras Downs, has lately been taken up, we hear, by Mr. R. Symons, the surveyor, who is about to form a company for working it in connection with the adjoining land belonging to Sir John Buller. We have heard that Mr. Evan Hopkins, who is now at Redruth, is expected to report on the property as a mining field. South Wheal Fortune is said to have improved lately. In that part of Wheal Vor Consols, called Wheal Metal, we hear of an improvement. In Wheal Susan there is a good course of tin cut a day or two ago; we advise adventurers to be wide awake. Great Work Consols much as formerly—a good dividend-paying mine. Sydney Godolphin is likely to become a good mine, and of its neighbour, Leeds and St. Aubyn (formerly Cold Harbour), good reports are current. St. Aubyn and Grylls, *statu quo*. We hope to see this parish, whose population suffered so severely in consequence of the stoppage of Wheal Vor, flourish again as much as ever.

DEELEY'S PATENT FOUNDRY FURNACE. 51

TO JOSEPH DEELEY, ESQ., GWYNNE HOUSE, TINTERN ABBEY, MONMOUTHSHIRE.

DEAR SIR,—We beg to inform you that we have now had your Patent Foundry Furnace at work for six months, and have much pleasure in informing you that its operations far exceed our anticipations; the iron melted in these furnaces is fit for any kind of work—it is so flued that we can run any description of castings, light or heavy. The quantity of coke required per ton with us is 2 cwts. 3 qrs. 19 lbs. at light work, such as small three-legged pots, &c.; of course, if applied to heavy work, the quantity required would be much less—the loss in weight in melting is half a cwt. per ton. We can with confidence recommend your Patent Furnaces to all who study economy.

Statement of a Day's Work of Ten Hours, with One Furnace.

	Tons			
Coke charged		2	18	2 0
Iron charged		20	0	0 14
Melted iron		19	9	2 0
Iron left in bottom of furnace		0	1	0 0

As we intend erecting a third furnace upon a larger scale than the two present ones, that will melt at least *thirty tons* in *ten hours*, you will oblige us by sending a set of drawings, with all other particulars, as soon as possible. THOMAS ALLAN & Co.

Springbank Iron-Works, Miller-street, Glasgow, Feb. 8.

New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

W. Stones, of Queenhithe, London, stationer, for improvements in the manufacture of safety paper for bankers' cheques, bills of exchange, and other like purposes.

E. Lloyd, of Dee Valley, near Corwen, Merionethshire, North Wales, engineer, for certain improvements in steam-engines, which improvements are in part or on the whole applicable to other motive engines.

P. Wood, of the firm of Bury and Co., dyers, finishers, and calenderers, of Salford, Lancaster, for improvements in printing, staining, figuring, and ornamenting woven and textile fabrics, wood, leather, or any other material substance or composition, and in machinery and apparatus employed therein.

J. Hinks, of Birmingham, manufacturer, and J. Vero, of Burbage, Leicester, manufacturer, for certain improvements in the manufacture of hats, caps, bonnets, and other coverings for the head.

G. D. Fevre, of Paris, France, gentleman, for certain improvements in apparatus for manufacturing and containing soda water, and other gaseous liquids, and also in preserving other substances from evaporation.

T. Wicksteed, of Old Ford, Middlesex, civil engineer, for improvements in the manufacture of manure, and in machinery to be used therein.

R. Adams, of King William-street, London, gun-maker, for improvements in rifles and other fire-arms.

F. C. Monatis, of Earlston, Berwick, builder, for an improved hydraulic syphon.

I. L. Bell, of Washington Chemical Works, near Newcastle-upon-Tyne, chemical manufacturer, for improvements in the manufacture of sulphuric acid.

H. Dircks, of Moorgate street, London, engineer, for improvements in the manufacture of gas, in gas burners, and in apparatus for heating by gas.

C. F. Bielefeld, of Wellington-street North, Strand, papier maché manufacturer, for improvements in the manufacture of sheets of papier maché, or substances in the nature thereof.

S. C. Lister, of Manningham, near Bradford, York, for improvements in preparing and combing wool and other fibrous materials.

R. and W. Hawthorn, of Newcastle-upon-Tyne, engineers and partners, for improvements in locomotive engines, parts of which are applicable to other steam-engines.

A. F. Rémond, of Birmingham, gentleman, for improvements in the manufacture of metallic tubes or pipes, and the machinery or apparatus connected therewith, which improvements are applicable to other like purposes.

T. Ellis, the elder, of Tredegar Iron-Works, Monmouth, engineer, for certain improvements in machinery or apparatus to be employed in the manufacture of blooms or piles for railway and other bars or plates of iron.

H. Richardson, Esq., of Aber Hourau Balor, North Wales, for certain improvements in life-boats.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

S. Cocker and Son, Sheffield, circular file driven by mechanical power.
S. Pearce, Bath, the Sevigne stay.
J. Cartland and Son, Birmingham, swing glass.
H. Room, Birmingham, shower-bath.
Thornton and Killick, Ludgate-hill, the Anuphaton collar.
J. Beasley, Spalding, machine for cutting chichory and other roots.
Sharp, Brothers, and Co., Manchester, ring and traveller for a throstle.
J. Warner and Sons, Crescent, Jewin-street, ventilating brick.
J. D. Durham, Linton-street, New North-road, hot-air funnel kettle.
J. Hooper, and J. Bullock, Moseley, near Birmingham, ventilator.
T. Eyles, James street, Bath, Eyle's folding table.
H. and S. Schloss, Friday-street, "multum in parvo" pocket-book, or porte cigar.
B. Sawdon, Huddersfield, gas retort.—*Mechanics' Magazine.*

NEW STEAM-CARRIAGE FOR COMMON ROADS.—In the *Avenir Republicain* is an account of the appearance in that town of a new steam-carriage, invented by M. Verpilleux, of Rue de Gier: it went through the streets with the greatest facility, under the most perfect control either in backing, or turning to the right and left, or when in advance. Two cabriolets containing some friends of M. Verpilleux, as was afterwards a heavy cart of coals, were attached, which it drew easily. It weighs 2 tons, is four horse-power, runs on three wheels, and its usual speed 10 miles an hour. It had come from Rue de Gier to St. Etienne over a very bad road, but did not suffer in the least. Another, of 12 horse-power, is being constructed: it will draw four loaded coal-waggons, and weighs 12,000 kilos. It is intended shortly to employ this kind of locomotion for the coal traffic of Besege to the Rhone, and from Firminy to the Lyons Railway. Its consumption of coke is said to be very small.

SAFETY CARRIAGE FOR THE EXHIBITION.—Mr. Croall, of Leith-walk, has invented a safety carriage, upon an entirely new construction, which can be safely and speedily stopped from the inside, in case of danger. Nothing of a similar nature has been invented either in our own or other countries. There is still to be seen a model of the invention, formed with mathematical precision and proportions, in every respect resembling a large carriage. It has received the approbation of the Committee of Inspection, and Mr. Grainger has expressed his approval that the invention be forwarded to the Exhibition. The object of the invention being to save life, the description of it is written in 50 different languages.—*Scotsman.*

CAUSE OF RARITY OF WILLIAM IV.'s COPPER COINAGE.—When the copper coins of the last reign appeared, a slight tinge in the colour of the metal excited the suspicion of those accustomed to examine such things that it contained gold, which proved to be the fact; hence their real value was greater than that for which they passed current, and they were speedily collected and melted down by manufacturers, principally, I believe, as an alloy to gold, whereby every particle of that metal which they contained was turned to account. I have been told that various Birmingham establishments had agents in different parts of the country, appointed to collect this coinage.—*Notes and Queries.*

COAL DUTIES OF LONDON AND WESTMINSTER.—The bill to amend the present Acts of Parliament relating to the vend and delivery of coals in London and Westminster and certain parts of the adjacent counties, and to allow a drawback upon coals conveyed beyond a certain limit, and which has passed the committee on standing orders, provides that a certificate of the quality and quantity of sea-borne coals is to be given and registered at the coal market on the arrival of every ship, and there is to be a penalty of 100*l.* on persons opposing the weighing of coals. Railway companies are to be allowed the duty on 500 tons of coal, used by engines within 20 miles of the London district, and there is to be a drawback per ton on sea-borne coal taken beyond 30 miles of the General Post Office by ships, canal, or inland navigation. Monthly returns are to be made to the coal market committee.

PRICES OF MINING SHARES.

It being difficult to obtain a correct knowledge of all the mines in our list, we trust that agents, and others interested, will assist us, by forwarding any additions, or corrections, with which they may be acquainted—our object being to present it as accurate as possible. We have also added a column to note the actual business transacted; but which, without the constant assistance of brokers and agents, cannot become so complete as we could wish The desirability of such a record is generally admitted, and we invite the co-operation of all parties concerned, in rendering it perfect.

Shares.	DEVON DISTRICT.	Paid.	Last Price.	Transactions.
3000	Aylesborough (tin), Sheepstor	1½	2	1½
4000	Bedford United (copper), Tavistock	2¾	7 7½	7½ 7¾
1280	Birch Tor and Vitifer (tin), Dartmoor	10½	4	
—	Bottle Hill (copper) Plympton	1	1 1½	
1024	Borringdon Park (silver-lead), Plympton	¾	4¾ 4½	5
4060	Devon and Courtenay Consols (copper)	1½	1	1
1024	Devon Great Consols (copper), Tavistock	1	285	275 280
768	Devon Great Tincroft, North Bovey	¾	6	
250	East Birch Tor (tin), North Bovey	3	3	
2048	East Crowndale (tin), Tavistock	7¾	3	
4000	East Gunnis Lake Junction (copper)	¾	¾ 1¼	1
9000	East Tamar Consols (silver-lead)	1½	1 1¼	1¼
2048	East Wheal George (cop.), Walkhampton	1	10	
512	East Wheal Josiah (copper), Tavistock	1½	1½	5
4000	East Wheal Russell (copper), Tavistock	¾	4½ 4¾ 5¾ 6	4 5¾
1024	Exmoor Eliza (copper), South Molton	2½	5	
1500	Hennock (silver-lead), Hennock	2½	2½ 3½	
1024	Kingsett and Bedford (lead and copper)	3½	2½	2½
1742	Lamberoos Wheal Maria (copper & tin)	11½	11	
6000	Nap Down (silver-lead), Combmartin	1	1½	
1024	New East Crowndale (copper and tin)	2	2	
1024	North Wh. Robert (copper), Walkhampton	2	3	2½
512	Old Brimpts (tin), Lydford, near Ashburton	¾	12	
1000	Peter Tavy and Mary Tavy (copper)	2½	7 8	4¾
512	Plymouth Wheal Yeoland (tin), Plymouth	6¼	6	
2048	Runnaford Coombe (tin)	2¾	3½ 4	
256	South Friendship Wh. Ann (copper & tin)	30	28 30	
256	South Molton (lead)	12½	8	
1024	South Plain Wood (copper), Ashburton	3½	7	7
9000	South Tamar (silver-lead), Beer Ferris	1	2¼ 2½	2¼
9600	Tamar Consols (silver-lead), Beeralston	4	5 5¼ 5¾	6
687	Tavy Consols (copper), near Tavistock	8	3	3
1024	United Mines (copper and tin), Tavistock	10	10	
1024	West Downs (copper and tin), Whitchurch	2	1½	
1024	West Wheal Friendship (copper)	3	3½ 4	
4000	West Wheal Russell	¾	1	
1070	Wheal Adams (lead), Christow, Exeter	13½	16	
1024	Wheal Carpenter (tin & cop.) S. Sydenham	1	1½ 1¾	2
1024	Wheal Crebor (copper), Tavistock	2½	5	5 6 6½
1024	Wheal Emily (antimony and lead)	3	5 6	
1024	Wheal Fortescue (copper), Tavistock	4½	3 3½ 5	3
764	Wheal Franco (copper), near Tavistock	13½	9 10	13
126	Wheal Friendship (copper)	120	120	
1024	Wheal Hamlyn, near Oakhampton	¾	1	
2048	Wheal Harris (lead), near Tavistock	¾	¾	1
2000	Wheal Langmaid (lead)	1	1½ 1¾	1½
1024	Wheal Mary Ann (copper), Bridestow	—	1½	
210	Wheal Prospect	4	7	
5000	Wheal Providence, South Sydenham	1	2½ 4	
4000	Wheal Russell (copper), Tavistock	1½	1½	1¼ 2
	EAST CORNWALL DISTRICT.			
1024	Appledore (silver-lead and cop.) St. Ives	1½	1½ 2	2½
3450	Bawden (silver-lead)	¾	¾ ¾	
256	Berriow (copper), Liskeard	2½	5	
1024	Bodmin Consols (lead), Wadebridge	4	4	5
5000	Bodmin Moor Consols (tin and copper)	1	1	
—	Bodmin Wheal Mary (copper)	5	6½	
107	Budnick Consols (tin), Perranzabuloe	52½	9	
812	Butterdon (lead), Menheniott	2½	10½	5
1000	Callington (lead and copper), Callington	28	6½ 7½	7
4000	Calstock United (copper)	5	5	
1000	Camborne Consols (copper), Camborne	7	7½	
1168	Caradon Great Cons. (cop.), Linkinhorne	7	6	
1536	Caradon Vale (copper and lead), St. Ive	1½	1½	
1000	Carn Brea (copper and tin), Illogan	15	120 125	126
3000	Carthew Consols (cop. & lead), Wadebridge	4	7	
1056	Carvannall (copper), Gwennap	2½	4	
256	Chyprase, St. Enoder, Cornwall	3	25 30	
800	Comblawn (lead), Callington	8	—	
128	Comfort (copper), Gwennap	65	85 95	65 75
256	Condurrow (copper and tin), Camborne	20	100 105–15	102 105
2510	Cook's Kitchen (copper and tin), Illogan	15½	9 9½ 10	7½ 8½ 9
2000	Coombe Valley Quarry (slate), St. Ginnis	3	3	
1000	Copper Bottom (copper), Crowan	7	9	6½
211	Craddock Moor (copper), St. Cleer	28½	7	
256	Crane and Bejawsa (copper), Camborne	41	25	26½
180	Dolcoath (copper and tin), Camborne	252	18 20	
2560	Drake Walls (tin and copper), Calstock	6½	3	3
—	Duke of Cornwall	8	3	
1024	East Buller (copper), near Redruth	2	6 6½ 7	7
128	East Carn Brea (copper), Redruth	4	3	
1024	East Polgooth (tin)	6	7½	
128	East Pool (tin and copper), Pool, Illogan	24½	160 170	170
256	East Seton and Wheal Maude, Redruth	4	4½	
1024	East Sharp Tor (copper)	5	8	
256	East Tolgus (copper), Redruth	4	19	19
1000	East Trescoll (tin), Lanivet, near Bodmin	1	2½ 3	2½
256	East Tywarnhayle (copper), St. Agnes	5	12	13
94	East Wheal Crofty (copper), Illogan	125	150 160	
256	East Wheal Frances (copper), Illogan	2½	3½	
512	East Wheal Leisure (copper)	8	17½ 20	20
256	East Wheal Rashleigh, Lonreath	—	10	
128	East Wheal Rose (silver-lead), Newlyn	50	550 555	560
494	Fowey Consols (copper), Tywardreath	40	30	
2560	Garras (silver-lead), near Truro	5½	4½	
256	Gonamena (copper), St. Cleer	46	15 17½	12½ 15
243	Grambler and St. Aubyn (copper)	80	48 50 52½	50
96	Great Consols (copper), Gwennap	1000	250	
2000	Great Beam (tin)	5	7	
1024	Great Sheba Consols (tin and copper)	5	13	13
5000	Great Wheal Martha (cop.), Stoke Clims.	—	1	
3072	Great Wheal Mitchell Cons. (cop.), Lanivet	3	5	
1026	Gustavus Mines (copper), Camborne	6½	5½ 6½	5½ 6
512	Gt. Wh. Rough Tor Con. (cop.), Camelford	29	20	
6000	Growa Slate Company, Camelford	5	5	
1024	Hawkmoor (cop.), Calstock, Gunnis Lake	5	17	
6000	Heignston Down Con. (copper), Calstock	2½	4	4
512	Herodsfoot (lead), near Liskeard	16	12½ 13	
1000	Holmbush (lead and copper), Callington	24	20 22½ 23½	23½
252	Lanarth Consols (copper), Gwennap	10	9½	8
6000	Marke Valley (copper), Caradon	10	3½	
256	Mineral Court (tin), near St. Austell	22½	50	
1024	Moditonham & Marrabro' (copper & lead)	1¾	2½ 3	
320	Nanscgollan (tin and copper), Camborne	3	3	
1024	North Buller (copper), Redruth	4	12½ 15	
256	North Fowey Consols	—	25	
100	North Pool (copper and tin), Pool	45	450 460	450
140	North Roskear (copper), Camborne	10	155 160	160
256	North Tolgus (copper), Redruth	9	4½ 5	22½
256	North Trefusis (tin and copper), Redruth	1	1	1
6000	North Wheal Basset (copper and tin)	—	12½ 15 20	12½ 13
1200	North Wh. Buller, or Gt. South Tolgus	5	7	
262	North Wheal Leisure, Perranzabuloe	1¼	1½	
1024	Okel Tor (lead)	1½	4½	
118	Par Consols (copper), St. Blazey	55½	650	
1026	Pendarves Consols (copper), Camborne	3½	6 6½	
1600	Pendarves and St. Aubyn (tin and copper)	5	10 12	
406	Penhauger	1	6	
2048	Pentire Glaze (silver-lead), St. Minver	5	8	
1160	Perran St. George (copper and tin)	21½	45	45
200	Phœnix (copper and tin), Linkinghorne	—	240	
1000	Polberro (tin), St. Agnes	15	—	
2000	Polgeare (copper and tin)	1	5½ 6	
5000	Roche Rock (tin), Roche, near St. Austell	1	1	
5000	Rocks and Treverbyn (tin), St. Austell	4½	5 5½	
10000	Silver Valley & Wh. Brothers (cop. & tin)	1	1½	
256	South Caradon (copper), St. Cleer	30	115 120	120
2000	South Carn Brea (copper), Illogan	10	8	8½
1100	South Dolcoath (copper), Illogan	6	6	
256	South Tolgus (copper), Redruth	16	145 150–55	145
256	South Trelawny (lead), near Liskeard	31	7½	1 2
496	South Wheal Basset (copper), Illogan	10½	365	375
496	South Wheal Frances (copper), Illogan	37½	302½	316
256	South Wheal Josiah (copper), Calstock	2	3	3½
999	St. Minver Consols (silver-lead)	1	6	
1000	Stray Park and Camborne Vean (copper)	15	15 16 17½	12½ 13½ 15
6000	Tincroft (copper and tin), near Pool	7	8½ 9½	7½ 8½
128	Tokenbury (copper), St. Ive, Liskeard	8½	8	
1200	Tolcarne (tin and copper), Camborne	8	5	
2048	Trebell Consols (tin and copper), Llanivet	1¼	1½	1½
512	Treburget United (lead), St. Teath	1	—	
600	Tregardock	1	5	
256	Tregorden (silver-lead) Wadebridge	10	7	
256	Trehane (silver-lead), Menheniot	1½	12½ 13½	12 12½
5000	Treleigh Consols (copper), Redruth	6	2¾ 3	2½
2000	Trenance (copper), Helston	6	—	
96	Tresavean (copper), Gwennap	20	210 220	235
190	Trethellan (copper), Gwennap	5	21 22	21
512	Trethevy (copper), St. Cleer	7	18 20	6½
512	Traville (lead), Lewanick	2¾	9	9
128	Treviskey and Barrier (copper)	140	240 245–50	245 250
500	Tywarnhayle (cop.), Illogan & St. Agnes	70	44	
200	United Mines (copper), Gwennap	300	110	
4000	Warleggan Consols (copper)	¾	1½	1½
[illegible]	West Basset	—	9	
[illegible]	West Buller (copper), Redruth	10	900	
[illegible]	West Caradon (copper), Liskeard	20	110 112½	108½
512	West Fowey Con. (tin & cop.), St. Blazey	40	60	
1024	West Par Consols (copper), St. Blazey	10	11	
1024	West Phoenix, Linkinghorne	3	4	
[illegible]	West Polgooth (tin), St. Ewe & St. Mewan	5	3	3
200	West Seton (copper), Camborne	67	150 160	160
3000	West Shepherd (silver-lead and copper)	2½	2	
940	West Tolgus (copper), Illogan	13½	6½	5
120	West Trethellan (copper), Gwennap	15	20	
512	West Wheal Frances (copper), Illogan	7	24½ 25	22
3725	West Wheal Jewel (tin and copper)	12	2	
2048	West Wheal Rose (lead), Newlyn	2½	3	
500	West Wheal Towan (copper), Illogan	15	12½ 15	
1228	Wheal Arthur (copper), Calstock	1¼	3	4½ 5
300	Wheal Arthur (lead), near East Wh. Rose	17	49	
232½	Wheal Calstock (copper), Calstock	9	9	
1000	Wheal Agar (copper), Illogan	6	5½ 5¾	
500	Wheal Daniell (copper), Chacewater	10	10	
3000	Wheal Dora (tin and copper), St. Cleer	3	3½ 4	
182	Wheal Elizabeth (copper), Redruth	19	25	
182	Wheal Ennis (lead), St. Erme	12	20	
100	Wheal Friendly (tin), St. Agnes	70	65	
4000	Wheal Golden (lead), Peranzabuloe	2	5 6	
2560	Wheal Harriet (copper), Camborne	1	1½ 2	1½
216	Wheal Henry (copper), Kea, near Truro	25	8 12	8
256	Wheal Kingston (copper and silver-lead)	¾	1	
6000	Wheal Langford (copper and silver-lead)	¾	3	3
1024	Wheal May (silver-lead and copper)	1½	1½	1½ 1¾
990	Wheal Mary (copper), Redruth	15½	7½	
512	Wheal Mary Ann (lead), Menheniot	5	64 65½	60 61 65
3000	Wheal Peninnis (lead and copper)	2¾	5½	
128	Wheal Plenty (copper), Redruth	19	38 39	
256	Wheal Prudence (copper), St. Agnes	2	6	
512	Wheal Selena (copper), Redruth	1	1½	
128	Wheal Seton (tin and copper), Camborne	107	225 230	
512	Wheal Sophia (silver-lead), Lezant	7	7	
512	Wheal Spry (copper and lead) St. Columb	¾	1	
—	Wheal Tom (tin & copper), Stoke Clims.	5	6½ 7 7½	
512	Wheal Trefusis (copper), Gwennap	6½	17	16
1024	Wheal Tremar (copper), St. Cleer	1	1	
1100	Wheal Trescoll (tin), Lanivet, Bodmin	2¾	6	2
520	Wheal Trelawny (silver-lead), Liskeard	3½	55 60	55
256	Wheal Tremaine (copper), St. Ervan	11	2½	
267	Wheal Tryphena (tin and copper)	40	38	
126	Wheal Union (copper), Redruth	40	45 50	
1024	Wheal Uny (tin and copper)	2	5½	
1024	Wheal Venton (silver-lead), Liskeard	3½	8 8½	7½ 7¾
910	Wheal Vincent (tin), Alternum	7½	6½	
128	Wheal Violet (tin and cop.), St. Stephens	5	5½	3
128	Wheal Vlow, Perranzabuloe	3	5	
184	Wheal Vyvyan (cop. & tin), Constantine	60	60	
	WEST CORNWALL DISTRICT.			
5120	Alfred Consols (copper), Hayle	3	16 16½	16
1624	Balleswidden (tin), St. Just	9	4 4½	
940	Balnoon Consols (tin), Uny Lelant	—	4½ 6	4½
40	Bolowall and Nanpean (tin), St. Just	—	16	
128	Boscean (tin), St. Just	10	25	
60	Bosorn (tin), St. Just	5	10	
100	Botallack (tin and copper), St. Just	182	190 200 20	220
1000	Carbona (tin and copper), Crowan	5	10	11 12
1024	East Balleswidden (tin), Sancreed	1½	2½	
256	East Godolphin (copper), Crowan	17½	13	20 21
1000	East Wheal Reeth	¾	2 2½	
1024	East Wheal Margaret (tin and copper)	¾	1½ 1¾	
2500	Georgia Consols (tin), St. Ive's	2½	7 7½	
1024	Great Wheal Alfred, St. Erth and Phillack	2	7½ 7¾	3½
512	Great Wheal Baddern (tin and silver-lead)	20	85	
512	Hawke's Point (copper), Uny Lelant	7	5	
256	Lelant Consols (tin), Uny Lelant	53	20 22½	20
160	Levant (copper and tin), St. Just	—	170	170
1000	Lewis (tin and copper), St. Erth	17	15½ 16½	17 18
1024	Mill Pool (tin and copper), St. Hilary	1	5½	7
2000	Molland	—	3 3½	
2000	North Levant (tin and copper), St. Just	5	3	
512	North Wheal Vor (tin), Breage, Helston	—	5	
1024	Penzance Consols (tin), Sancreed	1¼	3 3½	2 2½
1024	Praed Consols, Towednack	1	1	1
560	Providence Mines (tin), Uny Lelant	20½	30	
1024	Sidney Godolphin (copper), Breage	2½	3½	2½
300	South Speed (copper and tin), Uny Lelant	15	30	
1024	Spearne Consols (tin), St. Just	2½	10	7½ 8
1024	St. Aubyn and Grylls (copper and tin)	2½	5 5½	5½
94	St. Ives Consols (tin), St. Ive's	80	80	
280	Spearne Moor (copper), St. Just	30	40	
1024	Trannack and Bosence, St. Erth	1	5 5½ 6	
1024	Trannack United Mines (tin and copper)	1½	4½	5½
600	Trelyon Consols (tin), St. Ive's	3½	7½	19½
100	Trumpet Consols (tin), near Helston	95	80 90	
1000	Tyllwyd (lead), Cardiganshire	2	2½	
1024	Wellington (copper & tin), Perranlithnoe	6½	15 15½	15½
1024	West Alfred Consols	5¾	11 11½	
1024	West Ding-Dong (tin)	¾	2½	
512	West Providence (tin), St. Erth	10	67½ 70	68½ 70
1024	West Wheal Treasury (copper), Gwinear	8	7 7½ 8	
1024	West Wheal Virgin (tin), Sancreed	1	2½	
256	Wheal Albert (copper)	10	28 29	
3072	Wheal Augusta (tin), St. Just	¾	3½	¾
120	Wheal Bal (tin), St. Just	10	19½	
256	Wheal Carpenter (tin), Gwinear	1½	7½	1½
112	Wheal Margaret (tin), Uny Lelant	79	165	
1024	Wheal Neptune (copper), Perranuthnoe	1	1 1½	
1080	Wheal Oak, near Helston	1¼	1½	
240	Wheal Reeth (tin), Uny Lelant	20½	105	105
256	Wheal Squire (copper), St. Erth	5	5	6½
1000	Wheal Susan, Breage and Crowan	1	2½	
1024	Wheal Tremayne (tin and cop.), Gwinear	9½	21 21½	
1024	Wheal Trelusback, Stythians	5	4½ 5	
	WALES.			
1248	Allt-y-Crib (silver-lead), Talybont	5	10	
1500	Bishopstone (silver-lead), Glamorganshire	2½	10	
8000	Blaenavon (iron)	50	12½	
10000	British Iron, New, regis. (iron)	12	8	
—	Ditto ditto, scrip	10	10	
2000	Bronfloyd (lead)	—	4	
2400	Bryn-Arian (lead), Cardiganshire	2	2½ 2¾	2½
1000	Bryntail, Llanidloes, Montgomeryshire	2½	15 17½	14¾ 15
2000	Bwlch Consols (silver-lead), Cardiganshire	4	4 4½	
1000	Cae-Gynon (silver-lead), Cardiganshire	¾	1½	4¾
20000	Cameron's Steam Coal (coal), Swansea	10	2 2½	
200	Cefn Bruno (lead), Cardiganshire	6	50 55½	51 52½
900	Court Grange (silver-lead), Cardiganshire	10	12	
1600	Craig-y-Mwyn (lead), Llanrhiadr, Mont	8½	10½	
1000	Cwm Daren	1	3	
1000	Cwm Erfin (lead), Cardiganshire	6	6 6½	
2000	Cwm Sebon	—	4	
128	Cwmystwith (lead), Cardiganshire	60	105	
1000	Daren (silver-lead), Cardiganshire	2	8	
3000	Dyfngwm (lead)	10	11	
150	East Daren (lead), Cardiganshire	17	55 60	
1280	Esgair Llee Llanfihangel-y-Croythin	4½	5¾	
1024	Freidd Llwydd Mines (lead)	1½	3½	
1000	Gelli-rei-vin (silver-lead), Cardiganshire	1	5	
100	Goginan (lead), Cardiganshire	40	200	
100	Lisburne (lead), Cardiganshire	75	700	
1000	Llwynmalees (lead), Cardiganshire	9½	6 7	
3600	Llynvi Iron (iron)	50	50	
5000	Merllyn (lead), Flint	2½	4½ 5	4½ 5
1024	Montgomery (lead and copper)	7	11½	
200	Nanteos (lead), Cardiganshire	34	30	
3000	Nant-y-Car (copper), near Rhayader	—	5 5½	
4934	Pennant and Craigwen (lead)	3	3	
1000	Pen-y-bank and Erglodd (lead)	4	6½	
2500	Rhoswydol and Bacheiddon (lead)	10½	—	
10000	Rhymney Iron (iron), Rhymney	50	12	
10000	Ditto New	7	3	
2000	South Wales Mining Company (lead)	1	1	
4000	Tyn-y-Worglod (slate), near Carnarvon	4	4 5	
2048	West Goginan (silver-lead), Cardiganshire	1¾	2 2½ 3	1½ 2
1020	West Nantymwyn	—	2	
	MISCELLANEOUS.			
32	Black Burn, Alston, Cumberland	15	100	
5000	Black Craig (lead), Kirkcudbrightshire	5	5	
7100	Derwent (silver-lead), Durham	10	3	
1000	Dhurode (copper) Ireland	2	5	
4000	General Mining Co. for Ireland (copper)	1½	5½	
32	Helvellin Mining Company, Westmoreland	15	20	25
10000	Hibernian (copper) Ireland	12½	1¾	
1900	Keswick (lead), Portinscale, near Keswick	11	2 3	
787	Kirkcudbrightshire (lead), Kirkcud.	8½	5 5½	
5000	Low's Patent Copper Company	7	10	
5000	Mendip Hills (lead), near Bristol	3¾	2½ 2¾	
20000	Mining Co. of Ireland (copper, &c.)	7	4½	4½ 5
2000	South of Scotland	—	¾ 1	
5200	Wicklow (copper), Wicklow	5	19	
5000	Wicklow (copper and sulphur), Wicklow	3	3½ 3½	

Shares.	FOREIGN MINES.	Paid.	Last Price.
5000	Alten Mining Company (copper), Norway	14½	3
12000	Annotto Bay Mining Association (copper), Jamaica	1	5½ 6
20000	Australian (copper), South Australia	4	2
6000	Barossa Range (copper), South Australia	1¾	1
10000	Brazilian Imperial (gold), Brazil	23	5¾ 6
12000	Cobre Copper Company (copper), Cuba	40	32½
10000	Copiapo Mining Company (copper), Chili	14	6½
20000	General Mining Association (iron & coal), Nova Scotia	20	14
5000	Kinzigthal Mining Association (silver), Germany	2	¾
12000	Liguanea and General Mining Company of Jamaica	1	3½
5000	Linares (lead), Spain	3	2½
500	Ditto Preference	3	3½
4500	Ditto New	1	1
20000	Mexican and South American (silver), Mexico	8	1 1½
5051	Mexican Company (silver), Mexico	59½	—
5000	National Brazilian (gold), Brazil	30	2
104000	North British Australasian (copper), S. A. & New Zea.	1	½
7000	Royal Santiago (copper), Cuba	10	6¾ 7
11000	St. John del Rey (gold), Brazil	15	14
43174	United Mexican (silver), Mexico	Av. 28½	5½
10000	Worthing (copper), Adelaide, South Australia	3	3

SOUTH WALES RAILWAY AND PORT OF MILFORD HAVEN.

At the meeting of the South Wales Railway, on Wednesday, the subject of making Milford Haven the terminus of that railway, in place of Fishguard, was ably advocated by the CHAIRMAN (Mr. Talbot, M.P.) The change was also recommended by Mr. Chapman (of the firm of Overend, Gurney, and Company).—Mr. RIDGWAY took credit for impressing the matter on the attention of the board of the South Wales Railway Company, and said that such a deviation was warmly espoused by the mayor and corporation of Pembroke, who appear to have passed a vote of thanks to Mr. Ridgway for the interest he has taken in a matter of such vast importance to the principality.—The chairman, in his correspondence with Mr. Ridgway, points out as the best place for a terminus the Milford side above the town, and not Hobb's Point, for at the former place vessels of almost any size might disembark passengers alongside the wharfs when constructed. Mr. Ridgway, on the contrary, considers the Royal Dockyard side of Milford Haven the most suitable place. This difference of opinion, however, does not alter the general admission that Milford Haven is the most eligible terminus for the railway.

The resolution passed in respect to Mr. Ridgway was in the following terms:—"At a meeting of the mayor and council of the Borough of Pembroke, the 19th day of February, 1851, it was proposed by Mr. Trewent—That the thanks of this meeting be given to A. F. Ridgway, Esq., for his exertions in pointing out to the chairman of the South Wales Railway Company the advantages of the south side of Milford Haven as a terminus for such railway; and the council at the same time express a hope that Mr. Ridgway will continue his exertions.—The motion was seconded by Mr. G. WHITE, and carried unanimously."

Mr. RIDGWAY alluded to a droll stratagem at the time of the landing of the French in 1793, when the locality of Milford Haven was comparatively denuded of military defence. A number of women clad in red cloaks (the fashion then in the principality), were posted on the hills, and their sudden appearance striking terror to the invaders, gave to the brave Castle Martin yeomanry the opportunity of surrounding the Frenchmen, and making them all prisoners of war. The only officer of this distinguished corps now surviving is the veteran George Bowling, major commandant.

MERIONETHSHIRE SLATE COMPANY.—A meeting of shareholders was held on Thursday, before Master Sir William Horne, to receive the report of Mr. Ernest, the official manager, Mr. Herrington appearing as counsel, and Messrs. Fry as solicitors; and, from the statement in the report, the case presented as reckless, extravagant, and unbusiness-like, if not fraudulent, proceedings, as ever disgraced the history of Joint-stock Companies under the Winding-up Act. It set forth that the company was formed in 1846, the promoters being Messrs. John Rowland, jun., Frank Howard, and John Bright, for the purpose of effecting a sale to the company of certain slate quarries at Tally Clyn. With that view, a contract, dated 1st October, 1840, was entered into for the sale of the quarries from Mr. J. Rowland, jun., to Mr. John Bright, for 28,500*l.* The official manager states that, in the elucidation of the affairs of the company, he has been beset with extraordinary difficulties. Mr. West, the secretary, on being traced, stated that the whole of the books and papers were in the possession of Mr. E. W. Morris, the late chairman of the company; and on applying to him, the official manager, after great difficulty, obtained from him the deed of settlement, the share register, a rough cash statement, and a rough draft trading ledger, with two or three other papers of no utility. Subsequently, on a summons from the Master, Mr. Morris, for the first time, produced and delivered up the minute books of the company, and the counterpoise of a cheque book, the possession of which he had until then, denied. The banker's book was ultimately found in the possession of the solicitor, who, after volunteering before the Master to deliver up the same, afterwards refused to do so, unless his claim of 350*l.* thereon, with which the official manager was unacquainted, was admitted. The minute book was found to be very defective in recording the transactions of the company, and very few signatures of the parties were attached to the deed; but neither the original letters of applications for shares, the allotment books, scrip certificates for shares, transfer book, cheques, or bills, day cash-book or correspondence, were obtained. Mr. John Rowland, of Worcester, who started the company for the purpose of disposing of his own property, had received considerable sums of money from the shareholders, ultimately resumed possession of his quarries, and denied having in his possession any book, papers, or documents of the company. The official manager had been unable to ascertain the number of shares, money received or disbursed, terms upon which the property was held, extent of dealings, or assets and liabilities. He had, after great difficulty, discovered that the proposed capital was 50,000*l.* in 5000 shares at 10*l.* each, for which applications for 15,460 had been made, and 5540 allotted. The management of the quarries was under Mr. J. W. Rowland, a son of the vendor, the former recorded as holding 500 shares; a brother, E. R. Rowland, solicitor, 500 shares; and the vendor, J. Rowland, 1000 shares, all of which they repudiated: 2665*l.* had been received on three calls of 10s. each; some cash was taken for slates sold; 2331*l.* was paid the vendor, who also held a security for 6500*l.*, and the 20,000*l.* was to remain a lien on the estate at 5 per cent. per annum. The funds became exhausted, the undertaking failed, and the last meeting of the directors, who quarrelled, was on the 22d March, 1848. When operations ceased, there was a heavy sum due to the workmen; the other unsatisfied liabilities were about 600*l.* or 700*l.*, but the claims made at present were only about 70*l.* The Master then proceeded with the list, placing on it the names of all who had signed the deed. Mr. Shaw appeared for Mr. Frank Howard, who held 1000 shares, and said an appeal would be made on the ground that the company's case did not come within the meaning of the Winding-up Act. The official manager said he thought there was a class of contributors who, under recent decisions, would be held liable but the Master decided to have every case before him. Mr. Smith appeared for the Rev. Dr. Lamb, of Battle, upwards of 70 years of age, who had made an affidavit that he had never authorised his son to place his name to the deed; the son had requested 2000*l.* of his father on behalf, but Mr. Smith on enquiry reported against the concern, and some parties connected with it, and the money was not advanced. The meeting was then adjourned, for all the facts contained in the report to be properly dealt with.

MINING ON LAKE SUPERIOR.—The intelligence from the copper mines of Lake Superior represents the mines as doing well this year.—1500 tons of ore having been shipped, of which the Cliff Mine, the largest undertaking in that region, supplied 800 tons. One of the greatest expenses experienced in getting the copper ready for shipment is the cutting of it up into moveable masses, which is effected by a tedious process with hammer and chisel. Various have been the expedients devised to facilitate this operation; machines have been rigged in various ways, and at great expense, to saw the blocks, but the copper is so mixed with stony particles that the saws cannot be made to work. The miners are now about trying a new plan; they are constructing a gigantic furnace to melt the masses and cast them into such pieces as can be handled. Should they succeed in this operation, the expenses of mining will be very materially lessened. The traces of ancient mining continue to be found in great number and extent, and these prove of great service to the present workers, by directing them to the best locations, and by presenting to the miner excavations which could only be effected by a vast amount of labour. The people on the spot estimate their age at 2000 years at least, but nothing has been found to trace their connexion with any existing race, except the bare fact that the copper mined was carried off by way of St. Mary River and the lakes; and this is only presumed to be determined by detached portions being found along the route from the mines to Ste. Marie. An analysis of the ore brought down by one arrival at Quebec shows the per centage of copper on the average of the cargo to be 15·78 per cent.—*Daily News.*

ACCIDENTS.

Rowley Regis.—S. Davies was crushed to death in a quarry at Pwlldy.

St. Just in Penwith.—A lad, 10 years of age, while amusing himself by mining alone in a shallow pit, was killed by a slight fall of earth; the father coming in, kicked aside some of the loose earth, and to his horror saw the feet of his son protruding.

Gateshead.—Eleanor Macdougal, aged 63, had gone to warm herself at the pit fire at Lumley Colliery, and, on turning from the heap, she unconsciously stepped into the shaft, and was killed.

Kilmarnock.—George and Thomas Fulton were both severely injured by a fall of stone while working in the Gatehead Colliery.

Dudley.—Joseph Wall was killed by falling down a pit shaft at the Park-head Furnaces.

Burnley.—On Monday morning, about 6 o'clock, an explosion took place at the colliery of Messrs. Cardwell and Holgate, by which H. Westwell, and J. and T. Stevenson were killed, and H. Stevenson and Nicholas Thompson, seriously injured—the latter not likely to recover. The accident happened through T. Stevenson, one of the deceased, recklessly taking a naked candle, although cautioned by his comrades not to do so.

Derbyshire.—T. Rowliston was killed by falling down the shaft of an ironstone pit at West Hallam.—J. Woodhouse was killed while employed at the Loscoe Colliery.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Tanfield Moor Bute's 13—Wall's-End Bensham 12 6—Brown 13—Stewart's 16—South Kelloe 15—West Kelloe 14 6—Whitworth 13—South Durham 14 3—Gors Goch Stone 21—Llangennech 21.—Ships at market, 131, sold, 29.

WEDNESDAY.—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Tanfield Moor Bute's 13—Wall's-End Brown 13—Elm Park 13 9—Hedley 13 6—Morrison 13 6—Riddell 13 6—Eden Main 14 6—Lambton Primrose 14 9—Bell 14 6—Braddyll 15—Hetton 16—Haswell 16—Kepier Grange 14 9—Lambton 15 6—Richmund 14 6—Stewart's 16—Whitwell 13 9—Heugh Hall 14 6—Kelloe 15—South Hartlepool 15—Thornley 13 9—West Kelloe 14 6—Whitworth 13—Adelaide Tees 15—Maclean's Tees 13 3—Hartley 14—Hill of Beath 11 6—Nixon's Merthyr and Cardiff 21.—Ships at market, 165; sold, 64.

FRIDAY.—Buddle's West Hartley 14—Carr's Hartley 14—Chester Main 13—Davison's West Hartley 14—Dean's Primrose 13 3—Howard's West Hartley Netherton 14—Longridge's West Hartley 14 6—Tanfield Moor 13 6—West Wylam 13 6—Wall's-End Acorn Close 13 9—Bensham 12 6—Bewicke and Co. 13 9—Gosforth 13 9—Harton 13 9—Hotspur 13—Hedley 13 9—Hilda 13 3—Northumberland 13—Wharncliffe 13 9—Lambton Primrose 14 6—Braddyll 15—Hetton 15 9—Haswell 15 9—Jonassohn 13—Kepier Grange 14 6—Lambton 15 3—North Hetton Lyons 14 3—Richmund 14 6—Russell's Hetton 15 3—Hartlepool 15 9—Haswell 13 3—Howden 14—Heugh Hall 14 3—Kelloe 15—South Hartlepool 15—South Kelloe 14 3—Thornley 14 6—Whitworth 13—Cleveland Tees 13 6—Maclean's Tees 13 3—Pease's West 13 3—Seymour Tees 13 9—Tees 15 6—Derwentwater Hartley 14—Hartley 14—Nixon Merthyr and Cardiff 21—Sydney's Hartley 14 6—Victoria Main 12 3.—Ships at market, 250; sold, 121.

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